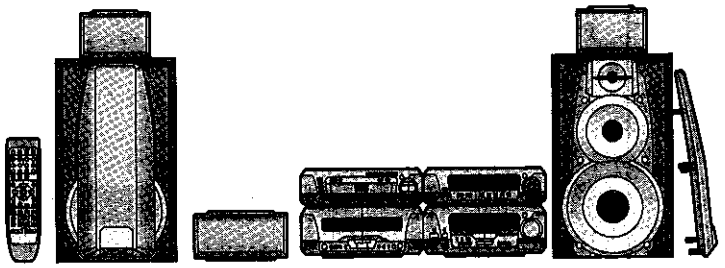
# DVD Stereo System

Operating Instructions

Model No. **SC-DV250**



The illustration shows the model for the United Kingdom, Continental Europe and Russia.

DVD VIDEO

COMPACT disc DIGITAL VIDEO

Technics®

These operating instructions are divided into two parts: a text booklet and an illustrated booklet. Use the two together.

**This is the text booklet.**

**Note**

The "EB" on the outer packaging indicates the United Kingdom.

Before connecting, operating or adjusting this product, please read these instructions completely. Please keep this manual for future reference.

**This unit responds to the region number information on DVDs. The unit can only play DVDs if the region number of the disc matches the region number of this unit.**
**See page 4 for details.**

EG EB GN GC EE

RQT5948-1B

## Dear customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.
These operating instructions are applicable to the following systems.

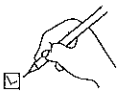
| System | | SC-DV250 |
|---|---|---|
| Sound processor | | SH-DV250 |
| Stereo tuner/amplifier | | SA-DV250 |
| DVD/Video CD/CD changer | | SL-DV250 |
| Stereo cassette deck | | RS-DV250 |
| Speakers | Front | SB-DV250 |
| | Center | SB-PC95 |
| | Surround | SB-PS95 |

### Disc symbols used in these operating instructions

The functions you can use depend on the type of disc you play.
These marks are used to indicate which type of disc is explained.
DVD: Feature can be used with DVD-Video
VCD: Feature can be used with Video CD
CD: Feature can be used with Audio CD
Some features cannot be used even if these symbols are indicated.

## Supplied accessories

**Refer to the illustrations on page 4 of the illustrated booklet.**



Please check and identify the supplied accessories. Use numbers indicated in parentheses when asking for replacement parts.
The AC mains lead, remote control, and FM antenna are different for each area.

**A AC mains lead** ..... 1 pc.
For the United Kingdom: (VJA0733)
For Australia and N.Z.: (RJA0035-X)
For others: (RJA0019-1X)

**Note**
The included AC mains lead is for use with this unit only. Do not use it with other equipment.

**B Remote control** ..... 1 pc.
For the United Kingdom, Continental Europe and Russia: (EUR7702140)
For others: (EUR7702150)

**C Remote control batteries** ..... 2 pcs.

**D FM indoor antenna** ..... 1 pc.
For the United Kingdom, Continental Europe and Russia: (RSA0007)
For others: (RSA0006-J)

**E AM loop antenna set:** (RSA0022-L) ..... 1 set

**F Speaker leads** ..... 4 pcs.
Red/Black: (REE1057)
Gray/Blue: (REE0853)

**G Antenna plug adaptor:** (SJP9009) ..... 1 pc.
(Only for the United Kingdom)

**H Power plug adaptor:** (SJP5213-2) ..... 1 pc.
(Only for areas except the United Kingdom, Continental Europe, Russia, Australia and N.Z.)

**I Video cord:** (RJL1P019B15)
For the United Kingdom, Continental Europe and Russia ..... 1pc.
For others ..... 2 pcs.

**J RCAJ adaptor:** (VFA0151-2) ..... 1 pc.
(Only for the United Kingdom and Continental Europe)

RQT5948

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# (For United Kingdom)

**("EB" area code model only)**

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ⓚ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

**CAUTION!**
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.
If in any doubt please consult a qualified electrician.

## IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

**WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.**

**THIS PLUG IS NOT WATERPROOF—KEEP DRY.**

## Before use

Remove the connector cover.

## How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

**Figure A**

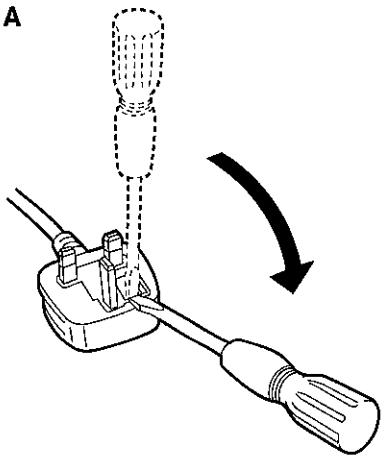
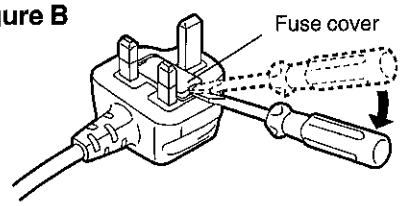


**Figure B**




2. Replace the fuse and close or attach the fuse cover.

**Figure A**

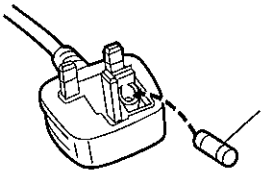
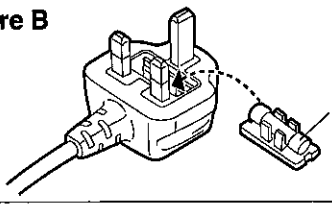



**Figure B**



# Safety precautions

## Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Place it at least 15 cm away from wall surfaces to avoid distortion and unwanted acoustical effects.

Do not place heavy items on the unit.

## Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

## AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

## Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

## Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

**CAUTION:**

**(For areas except United Kingdom, Continental Europe, Russia, Australia and N.Z.)**

**The AC voltage is different according to the area.**
**Be sure to set the proper voltage in your area before use.**
**(For details, please refer to page 5.)**

# Disc information

## Region numbers

Region numbers are allocated to DVD players and software according to where they are sold.

DVDs can be played on this unit if their region number is the same or includes the same number, or if the DVD is marked "ALL".

Confirm the region number for this unit before choosing discs. The number for this unit is indicated on the rear panel of the DVD/Video CD/CD changer.

**For Russia**

- The region number of this unit is "5".
- You can play discs with labels containing the region number "5" or "ALL".

**For Australia and N.Z.**

- The region number of this unit is "4".
- You can play discs with labels containing the region number "4" or "ALL".

**For the United Kingdom, Continental Europe and others**

- The region number of this unit is "2".
- You can play discs with labels containing the region number "2" or "ALL".

## Types of discs

This system can play discs bearing any of the marks shown.

This system cannot play the following discs:

- DVD with an unsuitable region number
- DVD-Audio
- DVD-ROM
- DVD-R
- DVD-RAM
- +RW
- DVD-RW
- DIVX Video Disc
- VSD
- CD-ROM
- CDV
- CVD
- CD-G
- SACD
- SVCD
- DTS discs
- Photo CD, etc.

## Type of disc for the type of connected TV

DVDs and Video CDs are recorded using either PAL or NTSC.
Refer to this table when selecting discs.

| TV type | Disc | TV Monitor |
|---|---|---|
| Multi-system TV | PAL | ✔ |
| | NTSC | ✔[*1] |
| NTSC TV | PAL | × |
| | NTSC | × |
| PAL TV | PAL | ✔ |
| | NTSC | ✔[*2] |

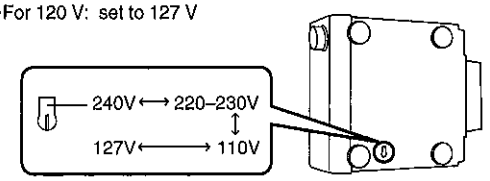
[*1] If you select "NTSC" in "Video"–"NTSC Disc Output" (➡ page 25), the picture may be clearer.

[*2] The factory setting for NTSC disc output is "PAL60", so no changes to the initial settings are necessary.
If your television is not equipped to handle PAL 525/60 signals the picture will not be shown correctly.

**Note**

The bottom part of the picture may be cut off if the Video CD played does not comply with standards.

**For areas except the United Kingdom, Continental Europe, Russia, Australia and N.Z.:**
Before positioning, set the voltage.
Use a flat-head screwdriver to turn the voltage selector to the appropriate position for your area.
If the power supply in your area is 115 V or 120 V, please set the voltage selector as follows:
- For 115 V: set to 110 V
- For 120 V: set to 127 V




**Note that the unit will be seriously damaged if this setting is not made correctly.**

## Refer to pages 5 to 15 of the illustrated booklet to set-up the unit and test by playing a disc.

**Note**
- The illustrations show the model for the United Kingdom, Continental Europe and Russia.
- Do not connect the AC mains lead until all other connections are complete.
- Be sure to read the following notes.

## Locating

**Note**
Do not put the DVD/Video CD/CD changer on the top of the tuner/amplifier. Heat can damage your discs.

### Use only the supplied speakers.
Using other speakers can damage the unit and sound quality will be negatively affected.

### Notes on speaker use
- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage.
  - When playing distorted sound.
  - When the speakers are receiving howling from a microphone (for areas except the United Kingdom, Continental Europe and Russia) or record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
  - When adjusting the sound quality.
  - When turning the unit on or off.

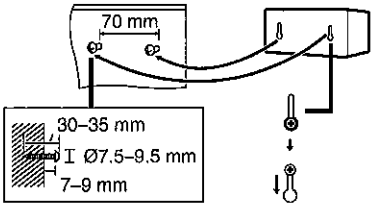
### If irregular colouring occurs on your television
These speakers are designed to be used close to a television, but the picture may be affected with some televisions and set-up combinations.
**If this occurs, turn the television off for about 30 minutes.**
The television's demagnetizing function should correct the problem.
If it persists, move the speakers further away from the television.

### Front speakers
Left and right front speakers are exactly same.

### Surround speakers
Place either side of the listening position, or slightly to the rear, about 1 meter higher than ear level with the Technics logo facing toward the listening position.
The effect varies with the type of music and the music source.

If you are unable to position the surround speakers as recommended, you can put them near the front speakers and still achieve a surround-like effect (➡ page 18, VIRTUAL REAR SURROUND).

**Attaching to a wall**
Set the speaker onto screws and slide through bracket to lock into position.




**Note**
The wall or pillar on which the speakers are to be attached should be capable of supporting 5 kg per screw.

**Caution**
- **Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.**
- **Do not attempt to attach these speakers to walls using methods other than those described in this manual.**

## Speaker leads

### Front speaker
LF and HF stand for low frequency and high frequency.
**Connect the left (L) side in the same way.**

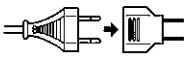
**Note**
- Never short-circuit positive (+) and negative (−) speaker wires.
- Be sure to connect only positive (red or grey) wires to positive (+) terminals and negative (black or blue) wires to negative (−) terminals.

Incorrect connection can damage the speakers.

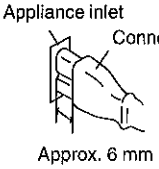
## AC mains lead

**(For the United Kingdom only)**
**BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 3 BEFORE CONNECTION.**

**For areas except the United Kingdom, Continental Europe, Russia, Australia and N.Z.**
If the power plug will not fit your socket, use the power plug adaptor (included).



### Insertion of connector
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.




### For your reference:
Information you enter into the unit's memory, except for time, remains intact for up to two weeks after the mains lead is disconnected.

# Front panel controls

Refer to illustrations **A**–**F** on page 16 of the illustrated booklet.

## A Stereo tuner/amplifier

① **Standby/on switch (⏻/I)** ..... 7
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
② **Standby indicator (⏻)**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
③ **Play timer/record timer button and indicator (PLAY/REC)** ..... 20, 21
④ **Clock/timer button (CLOCK/TIMER)** ..... 7, 20, 21
⑤ **Demo button (–DEMO)** ..... 6
⑥ **FM mode button (FM AUTO/MONO)** ..... 14
⑦ **Source input button (INPUT SELECTOR)** ..... 24
⑧ **Tuner/band button (TUNER/BAND)** ..... 14
⑨ **Digital super woofer button and indicator (DIGITAL S.WOOFER)** ..... 15
⑩ **Volume control (VOLUME)** ..... 8
⑪ **Headphone jack (PHONES)** ..... 22
⑫ **Tuning mode button (TUNING MODE)** ..... 14
⑬ **Set button (SET)** ..... 15

**For the United Kingdom, Continental Europe and Russia**

⑭ **Tuning buttons (∨, ∧ TUNING)** ..... 7, 14
⑮ **RDS display mode button (RDS, PS–DISP MODE–PTY)** ..... 14

**For areas except the United Kingdom, Continental Europe and Russia**

⑯ **Key control button (KEY CON)** ..... 23
⑰ **MIC effect buttons (MIC EFFECT, LOUNGE, CHORUS)** ..... 23
⑱ **Echo button (ECHO)** ..... 23
⑲ **Tuning, Key up/down buttons (∨, ∧ TUNING, ♭, ♯)** ..... 7, 14, 23
⑳ **KARAOKE, Voice mute buttons (KARAOKE, V.MUTE)** ..... 22
㉑ **Microphone jacks (1–MIC–2)** ..... 22
㉒ **Microphone volume control (MIC VOL)** ..... 22

## B DVD/Video CD/CD changer

㉓ **A-B repeat button (A-B REPEAT)** ..... 11
㉔ **Repeat play button (REPEAT)** ..... 11
㉕ **CD edit button (CD EDIT)** ..... 19
㉖ **Disc direct open buttons (DIRECT OPEN, DISC 1–DISC 5)** ..... 8
㉗ **Disc tray open/close button (⏏, OPEN/CLOSE)** ..... 8
㉘ **Skip/search buttons (I◀◀/◀◀, ▶▶/▶▶I)** ..... 9
㉙ **Disc select buttons and indicators (DISC, 1–5)** ..... 8
Green: Indicates that the tray is ready to play its disc or to be opened.
㉚ **Disc tray**
㉛ **Cinema mode button (CINEMA)** ..... 10
㉜ **Dialogue Enhancer button (DIALOGUE ENHANCER)** ..... 10
㉝ **Stop button (■)** ..... 8
㉞ **Pause button (❚❚)** ..... 8
㉟ **Play button and indicator (▷)** ..... 8
The colour of the indicator depends on the operation taking place.
If stopped: orange
If playing: green
If paused: flashes green
When the resume function is on: flashes orange

## C Stereo cassette deck

㊱ **Deck 1 cassette holder open button (⏏ OPEN)** ..... 14
㊲ **Deck 1**
㊳ **Fast forward/rewind, TPS buttons (◀◀, ▶▶)** ..... 14
㊴ **Deck 2**
㊵ **Deck 2 cassette holder open button (⏏ OPEN)** ..... 14
㊶ **Counter reset, display buttons (COUNTER, RESET, DISPLAY)** ..... 19
㊷ **Deck 1/deck 2 select button (DECK 1/2)** ..... 14
㊸ **Playback buttons and indicators (◁, ▷)** ..... 14
The colour of the indicators depends on the operation taking place.
If stopped, fast forwarding or rewinding: orange
If playing or recording: green
While carrying out TPS or recording is on standby: flashes
㊹ **Stop button (■)** ..... 14
㊺ **Dolby noise reduction button (DOLBY NR)** ..... 14
㊻ **Reverse mode button (REV MODE)** ..... 14
㊼ **Tape edit button (TAPE EDIT)** ..... 20
㊽ **Record pause button (● REC PAUSE)** ..... 19

## D Sound processor

㊾ **Display mode button (DISPLAY MODE)** ..... 22
㊿ **Display**
(51) **Super sound EQ button (SUPER SOUND EQ)** ..... 15
(52) **Super 3D AI EQ button (SUPER 3D AI EQ)** ..... 16
(53) **Jog control and joystick (◀, ▶, ▲, ▼, MULTI JOG)** ..... 15
(54) **DOLBY PRO LOGIC button and indicator (PRO LOGIC, OFF/ON)** ..... 17
(55) **Super surround button and indicator (SUPER SURROUND)** ..... 17
(56) **Center focus button and indicator (CENTER FOCUS)** ..... 18
(57) **Virtual rear surround button and indicator (VIRTUAL REAR SURROUND)** ..... 18
(58) **Multi rear surround button and indicator (MULTI REAR SURROUND)** ..... 18
(59) **Seat position button and indicator (SEAT POSITION)** ..... 18

## E Remote control

Buttons ❶, ❽, ❾, ❿, ⓮ and ⓯ function in the same way as the controls on the main unit.
(60) **Sleep timer button (SLEEP)** ..... 21
(61) **Numbered buttons (1–9, 0, ≥10/-/--)** ..... 8
(62) **Channel select, Test signal button (CH SELECT, TEST)** ..... 18
(63) **Menu, EQ button (MENU, EQ)** ..... 8, 15
(64) **Cursor buttons (◀, ▶, ▲, ▼)** ..... 7, 24
(65) **Marker, Super 3D AI EQ button (MARKER, S.3D AI EQ)** ..... 10, 16
(66) **Input select button [VCR (EXT)/VDP (AUX)]** ..... 24
(67) **Tape select, deck 1/deck 2 select button (TAPE/DECK 1/2)** ..... 14
(68) **Play mode, Cancel button (PLAY MODE, CANCEL)** ..... 10, 11
(69) **Disc pause, Tape reverse play button (◀/❚❚)** ..... 8, 14
(70) **Audio select, 2 channel down mixing button (AUDIO, MIX 2CH)** ..... 10, 17
(71) **Shift button (SHIFT)** ..... 7
To operate functions labeled in orange, press [SHIFT] and then the corresponding button at the same time.
(72) **Muting button (MUTING)** ..... 22
(73) **Top menu, Subtitle select button (TOP MENU, SUBTITLE)** ..... 8, 10
(74) **GUI display, Initial setting button (DISPLAY, SETUP)** ..... 7, 12, 24
(75) **Disc button (DISC)** ..... 12

**Except for the United Kingdom, Continental Europe and Russia**

(76) **Karaoke, Karaoke effect button (KARAOKE, KARAOKE EFFECT)** ..... 22, 23
(77) **Return, Super sound EQ button (RETURN, SUPER SOUND EQ)** ..... 7, 15
(78) **Enter button (ENTER)** ..... 7, 24
(79) **Angle select, AV effect button (ANGLE, AV EFFECT)** ..... 10, 18
(80) **DVD button (DVD)** ..... 7
(81) **Disc play, Tape forward play button (▶)** ..... 8, 14
(82) **Disc stop, Tape stop button (■)** ..... 8, 14
(83) **Disc slow/search buttons (◀◀, ▶▶ SLOW/SEARCH)** ..... 9
(84) **Disc skip buttons (I◀◀, ▶▶I SKIP)** ..... 8

## F Turning DEMO off

A demonstration of the display is shown if you have not set the clock.
You can reduce the power consumed in standby mode by turning the demonstration off.

While the unit is on:

**Press and hold [–DEMO] until "NO DEMO" is displayed.**

Each time you press and hold the button:
NO DEMO (off)⇄DEMO (on)

*Control guide and preparatory steps*

## The remote control

**Refer to illustrations A and B on page 17 of the illustrated booklet.**

### A Batteries

- Insert so the poles (+ and −) match those in the remote control.
- Do not use rechargeable type batteries.

**Do not;**

- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart or short circuit.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.
- keep together with metallic objects such as necklaces.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.
If electrolyte leaks from the batteries, consult your dealer.
Wash thoroughly with water if electrolyte comes in contact with any part of your body.

Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.
Replace if the unit does not respond to the remote control even when held close to the front panel.

### B Use

Aim at the sensor, avoiding obstacles, at a maximum range of about 7 meters directly in front of the unit.

- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, and the glass doors on cabinets.

**Do not;**

- put heavy objects on the remote control.
- take the remote control apart.
- spill liquids onto the remote control.

## Setting the time

**Refer to illustration C on page 17 of the illustrated booklet.**

This is a 24-hour clock.
The example shows how to set the clock for 16:25 (4:25 p.m.).

**1 Press [⏻/I] to turn the unit on.**

**2 ① Press [CLOCK/TIMER] to display "CLOCK".**
Each time you press the button:
CLOCK→⏲PLAY→⏲REC→Original display

**② Within 5 seconds Press [SET].**

**3 ① Press [TUNING (∨ or ∧)] to set the time.**
The time display can be changed in one minute units by tapping the buttons, and quickly by holding down the buttons.

**② Press [SET].**

The time is set and the original display is restored.

### Displaying the clock

Press [CLOCK/TIMER].
The clock is shown for about 5 seconds.

Reset the clock regularly to maintain accuracy.

## Selecting TV screen type

**Refer to the illustration on page 14 of the illustrated booklet.**

Remote control only

Change the setting to suit the aspect ratio of your television.

> **The menu language is set to English,** but you can change it to other languages (➡ page 25, Display–Menu Language). English is used in the examples.

**Preparation**
Turn on the television and select the appropriate video input on the television to suit the connections for the player.

**1 Press [⏻] to turn the unit on.**

**2 Press [DVD] to select "DVD" as the source.**

**3 While stopped**
**Press [SHIFT]+[SETUP] to display the initial settings screen.**

**4 Press [◀, ▶] to select the Video tab.**

**5 Press [▲, ▼] to select "TV Aspect" and press [ENTER].**

**6 Press [▲, ▼] to select the item and press [ENTER].**

- **4:3 Pan&Scan** (Factory preset)
  Select if you have a regular television and to view 16:9 software* in the pan and scan style.

- **4:3 Letterbox**
  Select if you have a regular television and to view 16:9 software in the letterbox style.

- **16:9**
  Select if you have a widescreen television.

*16:9 software prohibited from being shown in the pan and scan style will appear in the letterbox style despite the setting here.

The Video menu is shown.

**7 Press [RETURN] to end the settings.**

### To return to the previous screen

Press [RETURN].

### For your reference

DVDs are recorded in a variety of aspect ratios. You can change the way software is shown on a regular television (4:3) with the above operation. If you have a widescreen television (16:9), use the television's picture modes.

## Playing discs

Refer to the illustration on page 15 of the illustrated booklet.

DVD VCD CD

**Preparation**
Turn on the television and select the appropriate video input on the television to suit the connections for the player.

### 1 Press DIRECT OPEN [DISC 1]–[DISC 5] to open a tray and set a disc.
Label must face upward. (With double-sided discs, load so the label for the side you want to play is facing up.)

### 2 Press [▲, OPEN/CLOSE] to close the tray.

The tray closed is in the play position (its disc indicator turns green).
When you insert CDs and Video CDs, the tuner/amplifier display shows the total number of tracks and total playing time if "DVD" is selected as the source.
Some discs start playing automatically.
Repeat steps 1 and 2 to load the other trays.

### 3 Press [DISC, 1–5] to change the play position tray and start play.
The type of disc (DVD/VCD/CD) in the play position is displayed on the tuner/amplifier.

### 4 Adjust the volume.

---

**Play position**
The disc in the play position is ready to play immediately when you press [▷].

**To stop the disc**
Press [■]. The "▷" indicator flashes orange to indicate that the resume function is on. (See right.)

**To pause play**
Press [❚❚] during play. The "▷" indicator flashes green.
Press [▷] to resume play.

**Note on CD-R and CD-RW**
This unit can play CD-DA and video CD format audio CD-R and CD-RW that have been finalized* upon completion of recording. It may not be able to play some CD-R or CD-RW due to the condition of the recording.
*Finalizing is a process that enables CD-R/CD-RW players to play audio CD-R and CD-RW.

**Note**

- **If "⃠" appears on the television**
  The operation is prohibited by the unit or disc.
- The disc continues to rotate while the menu is displayed even after you finish playing an item. Press [■] when you finish to preserve the unit's motor and your television screen.
- Volume may be lower when playing DVDs than when playing other discs or during television broadcasts.
  If you turn the volume up on the television or amplifier, ensure you reduce the volume again before playing other sources so that a sudden increase in output does not occur.

Refer to illustrations D and E on page 17 of the illustrated booklet.

## D When a menu screen appears on the television

DVD VCD

Remote control only

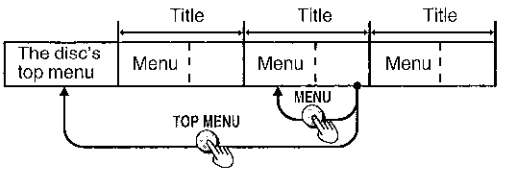
### Press the numbered buttons to select an item.
To select title No.10 or over, press [≥10/-/--] then the two digits.
e.g. Title No. 12: [≥10/-/--] → [1] → [2]
- When playing DVDs, you can also use [▲, ▼, ◄, ►] to select items. Press [ENTER] to confirm your selection.

Play of the selected item now begins.

**Other buttons used to operate menus**
Read the disc's instructions for further details about operation.

| | |
|---|---|
| **To return to a menu during play** | DVD: [MENU] or [TOP MENU]<br>Video CD: [RETURN] |
| **To show the next or previous menu** | [SKIP ▶▶I] (next menu)<br>[I◀◀ SKIP] (previous menu) |

**DVD menus**
DVDs can have several menus. The menu displayed when you press [TOP MENU] may be different from the menu displayed when you press [MENU].




## E Resume function

DVD VCD CD

**If you press [■] during play, the unit remembers the position.**
The play indicator flashes to indicate that the resume function is active.
This function does not work if the disc's play time is not displayed on the tuner/amplifier.

**To restart play from the point**
**While the play indicator is flashing, press [▷].**
Play resumes from the point it was stopped.
**With DVD**
"Press PLAY to Chapter Review" appears on the TV screen for a few seconds. If you press [▷] while the message is on the screen, the beginning portions of each chapter up to the current one are played. Full play resumes from the point where you stopped play.

**To cancel the resume function**
Press [■].

**Note**

- Resume is canceled if the disc tray is opened or if you change discs.
- The position is saved even if the unit is turned off or a source other than "DVD" is selected.
- Chapter review is not possible with some DVDs.

Refer to illustrations A–D on page 18 of the illustrated booklet.

## A Skip function

DVD VCD CD

**While playing or paused**

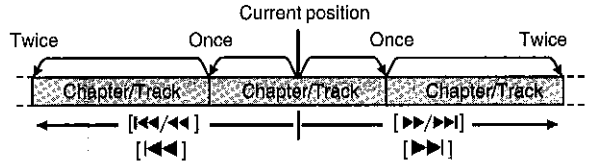
**On the remote control**

**Press [SKIP (|◀◀ or ▶▶|)].**

**On the changer**

**Press [|◀◀/◀◀] or [▶▶/▶▶|].**

Each press increases the number of skips.




## B Search function

DVD VCD CD

**During play**

**On the remote control**

**Press [SLOW/SEARCH (◀◀ or ▶▶)].**

**On the changer**

**Press and hold [|◀◀/◀◀] or [▶▶/▶▶|].**

### For your reference

Audio will be heard during search for most discs. With DVDs and Video CDs, audio is heard at the first speed, but you can turn this off if you want to (DVD and Video CD only ➡ page 25, Audio–Audio during Search).

## C Slow-motion play

DVD VCD

**While play is paused**

**On the remote control**

**Press [SLOW/SEARCH (◀◀ or ▶▶)].**

**On the changer**

**Press and hold [|◀◀/◀◀] or [▶▶/▶▶|].**

## D Frame-by-frame viewing

DVD VCD

**Remote control only**

**While play is paused**

**Press the cursor button [◀] or [▶].**

- Each press changes the frame.
- The frames change in succession if you press and hold a cursor button.
- The frame also advances each time you press [◀/❚❚] on the remote control or [❚❚] on the changer.

### Notes

- The speed of search and slow-motion increases up to 5 steps.
- Press [▶] (play) to restart play.
- You cannot move backwards with Video CD during frame-by-frame and slow-motion.
- [|◀◀], [◀], [◀◀] or [|◀◀/◀◀]: Backward
  [▶▶|], [▶], [▶▶] or [▶▶/▶▶|]: Forward

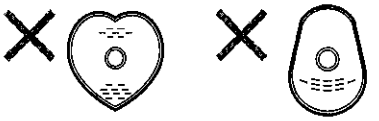
### When playing Video CDs with playback control

Pressing buttons to perform skip, search or slow-motion may take you to a menu screen.

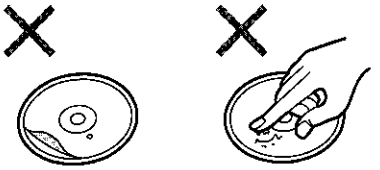
## Disc selection

**Do not;**

- use irregularly shaped discs.



- attach extra labels and stickers.
- use discs with labels and stickers that are coming off or with adhesive exuding from under labels and stickers.

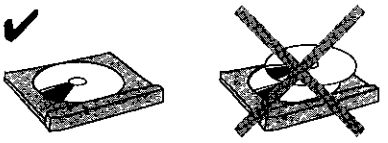


- attach scratch-proof covers or any other kind of accessory.
- write anything on the disc.
- clean discs with liquids. (Wipe with a soft, dry cloth.)
- use discs printed with label printers available on the market.

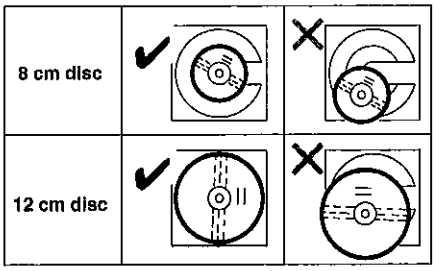
## To prevent damage

Always observe the following points.

- Load only 1 disc per tray.



- Load discs correctly as illustrated.
  An adaptor is not needed with 8 cm discs (singles).




- Set the system on a flat, level surface.
- Always unload all discs before moving the system.

**Do not;**

- set it on top of magazines, inclined surfaces, etc.
- move the system while tray is opening/closing, or when loaded.
- put anything except discs in trays.
- use cleaning discs or discs which are badly warped or cracked.

## Changing soundtracks, subtitle languages and angles

Refer to illustrations E–G on page 18 of the illustrated booklet.

DVD

Remote control only

Some DVDs have multiple soundtracks, subtitle languages and camera angles, and you can change these during play.

### E Soundtracks

During play

**Press [AUDIO].**

The number on the television changes each time you press the button.

- You can also use this button to turn the vocals on and off on karaoke discs. Read the disc's instructions for details.

### F Subtitles

During play

**Press [SHIFT]+[SUBTITLE].**

The number on the television changes each time you press the button.

**To clear/display the subtitles**

1. Press [SHIFT]+[SUBTITLE].
2. Press [▶].
3. Press [▲, ▼] to display "ON" or "OFF" on the television.

### G Angles

During play

**Press [ANGLE].**

The number on the television changes each time you press the button.

**Notes regarding soundtracks, subtitle languages and angles**

- You can also use [▲, ▼] or the numbered buttons to change the soundtracks, subtitle languages and angles.
- Some discs allow changes to soundtracks, subtitle languages and angles only by using the disc's menus.
- Soundtrack and subtitle languages can be set before play with the initial settings (➡ page 25, Disc–Audio and Subtitle).
- "–" or "––" is displayed instead of the language number in circumstances such as when no language is recorded on the disc.
- Some discs allow you to set angles before multi-angle scenes are played. Read the instructions that come with the DVD.
- In some cases, the subtitle language is not changed to the selected one immediately.

Refer to illustrations A–C on page 19 of the illustrated booklet.

## A DIALOGUE ENHANCER

DVD (Dolby Digital, 3-channel or over, where the dialogue is recorded in the center channel)

Main unit only

This mode makes the dialogue in movies easier to hear.

**Press [DIALOGUE ENHANCER].**

The display on the television changes each time you press the button:

**ON**

↕

**OFF** (Factory preset)

CENTER FOCUS is canceled when you turn this on (➡ page 18).

## B CINEMA

DVD VCD

Main unit only

You can enjoy better pictures by changing the picture quality.

**Press [CINEMA].**

The display on the television changes each time you press the button:

**C:** Cinema mode
Mellows movies, enhances detail in dark scenes.

↕

**N:** Normal mode (Factory preset)

**To cancel**

Press [CINEMA] to display "N" on the television.

## C Marking a position

DVD VCD CD

Remote control only

This feature allows you to mark up to 5 points on a disc so you can return to them easily at a later time.

### Marking a position

**1 Press [MARKER] during play.**

The marker display appears on the TV screen.

**2 Press [ENTER] at the point you want to mark.**

**To mark another position**

While the marker display is on the screen, press the cursor button [◀] or [▶] to select another "✳" and press [ENTER].

### Recalling a marked position

**1 While the marker display is on the screen**
**Press the cursor button [◀] or [▶] to highlight the required marker.**

**2 Press [ENTER] to recall the position.**

**To clear a marker**

While the marker display is on the screen

Press the cursor button [◀] or [▶] to highlight the marker you want to clear and press [SHIFT]+[CANCEL].

**To clear the marker display**

Press [MARKER].

**Note**

- This feature cannot be used if the play time for the disc is not displayed on the tuner/amplifier.
- Some subtitles may not appear around the marker (DVD).
- Markers clear in the following situations:
  - The unit is turned off.
  - The disc is changed or removed.
  - A source other than "DVD" is selected.

## Repeat function

**Refer to illustrations D and E on page 19 of the illustrated booklet.**

DVD VCD CD

**Preparation:** Press [DVD] to select "DVD" as the source.

### D Repeating chapters, titles and tracks

**Press [REPEAT] during play.**

**DVD**

The display on the television changes each time you press the button:

- C: Current chapter is repeated.
- T: Current title is repeated.
- OFF: Repeat mode is canceled.

**Video CD, CD**

"↻" is displayed on the tuner/amplifier: All tracks on the disc(s) are repeated.

"↻" is cleared: Repeat mode is canceled.

**For your reference:**

Use the PLAY MODE function if you want to listen to all discs (Video CD/CD) repeatedly (➡ page 12 "ALL-DISC play").

**To cancel repeat play**

Press [REPEAT] to clear "↻" on the tuner/amplifier.

**Note**

Repeat play does not work if the play time for the disc is not displayed on the tuner/amplifier.

**To repeat only your favorite tracks (Video CD/CD only)**

① Program the tracks you want (➡ right).
② Press [▷]. Play will start.
③ Press [REPEAT] to display "↻".

### E Repeating a specific section (A-B REPEAT)

**1 Press [A-B REPEAT] during play at the starting point (A).**

**2 Press [A-B REPEAT] at the finishing point (B).**

**To cancel A-B repeat play**

Press [A-B REPEAT] to clear "↻" on the tuner/amplifier.

**Note**

- This feature cannot be used if the play time for the DVD is not displayed on the tuner/amplifier.
- The end of a track or title is automatically determined as point B when the end of the title/track is reached.
- Subtitles may not appear arround A and B (DVD only).

## Program play

**Refer to illustration A on page 20 of the illustrated booklet.**

VCD CD

**Remote control only**

You can select up to 24 tracks on any of the loaded Video CDs or CDs to play in the order you choose.

**Preparation:**

- Press [DVD] to select "DVD" as the source.
- Ensure a Video CD or CD is in the play position tray. (Program play is not possible if the play position tray contains a DVD or is empty.)

**1 While stopped**

**Press [PLAY MODE] to display "PRGM" on the tuner/amplifier.**

Each time you press the button:

PRGM→RANDOM→ALL DISC→(off)

**2 Press [DISC] and (within 10 seconds) [1]–[5] to select the disc.**

**3 Select the track with the numbered buttons.**

For tracks numbered 10 and over, press [≥10/-/--] then the two digits.

The tuner/amplifier shows the disc number, track number and programmed order.

Repeat steps 2 and 3 to program the tracks in the required order.

**4 Press [▶].**

All the tracks are played in the selected order.

**To exit program mode**

Press [PLAY MODE] while in the stop mode to clear "PRGM" on the tuner/amplifier.

Program contents will be saved in the memory.

**You can do the following while the disc is stopped in program mode**

Press [■] to cancel the resume function (➡ page 8) if it is on.

- **Checking program contents**
  Each time you press [SKIP (⏮ or ⏭)], the disc number, track number and program order are displayed.
- **Adding to the program**
  Repeat steps 2 and 3.
- **Canceling a particular track**
  Select the track with [SKIP (⏮ or ⏭)] then press [SHIFT]+[CANCEL].
- **Canceling all tracks**
  Hold [■] for 3 seconds.

**If "FULL" is displayed**

24 tracks have been programmed. No further tracks can be programmed.

**Note**

- Discs and tracks the unit cannot find can be programmed but are skipped during play. This is also the case if you program a DVD.
- You can program individual tracks even if the disc is a Video CD with PBC.
- Skipping is done in the programmed order.
- You can search only within a track being played.
- You cannot start play by pressing [DISC, 1–5] on the main unit while in the program mode.

**Refer to illustrations B–D on page 20 of the illustrated booklet.**

DVD CD

Remote control only

**Preparation:** Press [DVD] to select "DVD" as the source.

## B Random play

Plays all discs once each in random order.
Ensure a Video CD or CD is in the play position tray. (Random play is not possible if the play position tray contains a DVD or is empty.)

**1 While stopped**
**Press [PLAY MODE] to display "RANDOM" on the tuner/amplifier.**
Each time you press the button:
PRGM →**RANDOM**→ALL DISC→(off)
↑ ↓

**2 Press [▶].**
All tracks on all discs are played in random order.

### To exit random mode
Press [PLAY MODE] while in the stop mode to clear "RANDOM" on the tuner/amplifier.

**Note**
- If the disc is a Video CD with PBC, menu play is automatically canceled during random play.
- This function skips DVDs.
- You cannot skip to tracks already played.
- You can search only within a track being played in random play.
- You cannot start play by pressing [DISC, 1–5] on the main unit while in the random mode.

## C ALL-DISC play

You can play up to 5 discs in succession to the final disc.
Ensure a Video CD or CD is in the play position tray. (ALL-DISC play is not possible if the play position tray contains a DVD or is empty.)

**1 While stopped**
**Press [PLAY MODE] to display "ALL DISC" on the tuner/amplifier.**
Each time you press the button:
PRGM→RANDOM →**ALL DISC**→(off)
↑ ↓

**2 Press [▶].**

### To cancel
Press [PLAY MODE] while in the stop mode to clear "ALL DISC" on the tuner/amplifier.

### Final disc
For example, if play starts from disc 4, disc 3 will be the final disc.
Order of progression: Disc 4→5→1→2→3

## D Starting play from a specific track

**1 Press [DISC] and (within 10 seconds) [1]–[5] to select the disc.**
Play starts from the first track.
- If a menu appears (Video CD with PBC), press [■] to cancel menu play.

**2 Select the track with the numbered buttons.**
For tracks numbered 10 or over, press [≥10/-/--] then the two digits.
Play starts from the selected track.



DVD

Remote control only

GUI (Graphic User Interface) are icons which appear on the TV screen to allow you to interact with the unit. GUI screens show information about the unit and discs. You can perform various operations by changing the information shown in these screens.

**Note**
GUI screens will not be displayed if the play position tray contains a Video CD or CD.

## Common procedures

**Refer to illustration A on page 21 of the illustrated booklet.**

**1 Press [DISPLAY].**
The GUI screen appears.
Each time you press the button:
→Disc GUI
↓
Unit GUI
↓
Shuttle GUI
↓
Original display
- The screens depend on the disc contents.

**2** Unit GUI only
**While the leftmost icon is highlighted (press [◀, ▶])**
**Press [▲, ▼] to select the menu.**
Each time you press the button:
→Play menu
↓ ↑
Display menu
↓ ↑
Audio menu
↓ ↑
Video menu

**3 Press [◀, ▶] to select the item.**

**4 Press [▲, ▼] to select the setting.**
Items with "▲" or "▼" above and below can be changed by [▲, ▼]. Other items use different buttons. See page 13 for details.

### For your reference
- Some functions cannot be accessed from the stop mode (e.g. changing the soundtrack language).
- Press [ENTER] if the setting does not change after pressing [▲, ▼] or the numbered buttons.

### To clear the icons
Press [RETURN] until the menus disappear.

### ■ To change the position of the icons
You can lower the position of the icons on the screen if they are cut off for some reason. There are 5 positions to choose from.
1. Press [◀, ▶] to select the rightmost icon.
2. Press [▲, ▼] to move the icons.

## GUI icon descriptions

### Disc GUI

| Icon | Content |
|---|---|
| | **Title number** |
| | **Chapter number** |
| | **Time** (select a position to start play by specifying a time with the numbered buttons.) |
| | **Soundtrack language** (See **A** below for language abbreviations.) |
| | **Audio signal type** (See **B** below for details.) |
| | (Karaoke DVD only)<br>**Karaoke vocal on/off**<br>Solo: OFF or ON<br>Duet: OFF, V1+V2, V1 or V2 |
| | **Subtitle language** (See **A** below for language abbreviations.) |
| | **Subtitles on/off**<br>ON⟷OFF |
| | **Angle number** |

#### A Audio/Subtitle language

| | | |
|---|---|---|
| ENG: English | SVE: Swedish | CHI: Chinese |
| FRA: French | NOR: Norwegian | KOR: Korean |
| DEU: German | DAN: Danish | MAL: Malay |
| ITA: Italian | POR: Portuguese | VIE: Vietnamese |
| ESP: Spanish | RUS: Russian | THA: Thai |
| NLD: Dutch | JPN: Japanese | ∗: Others |

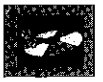
#### B Signal type/data

LPCM/DD Digital: Signal type
k (kHz): Sampling frequency
b (bit): Number of bits
ch (channel): Number of channels

Example:
3/2.1ch

- .1: Subwoofer signal (not displayed if there is no subwoofer signal)
- 0: No surround / 1: Mono surround / 2: Stereo surround (left/right)
- 1: Center / 2: Front left+Front right / 3: Front left+Front right+Center

### Unit GUI

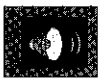


#### Play menu

| Icon | Content |
|---|---|
| | **A-B repeat** (➡ page 11)<br>[ENTER] (start point)→[ENTER] (finish point)<br>To cancel<br>[ENTER] |
| | **Repeat play** (➡ page 11)<br>C (Chapter)⟷T (Title)⟷OFF |
| | **Marker** (➡ page 10)<br>[ENTER] so the unit is ready to accept marks.<br>To mark a position<br>[ENTER] (at the desired point)<br>To mark another position<br>[◀], [▶]→[ENTER]<br>To recall a marker<br>[◀], [▶]→[ENTER]<br>To erase a marker<br>[◀], [▶]→[SHIFT]+[CANCEL] |

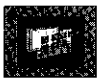
#### Video menu

| Icon | Content |
|---|---|
| | **Cinema mode** (➡ page 10)<br>C: Cinema mode<br>N: Normal mode |



#### Audio menu

| Icon | Content |
|---|---|
| | (Dolby Digital, 3-channel or over only)<br>**Dialogue Enhancer**<br>Makes the dialogue in movies easier to hear.<br>ON⟷OFF<br>(Actual result depends on discs) |



#### Display menu

| Icon | Content |
|---|---|
| | **IPB display** (➡ page 27)<br>Displays the picture type (I/P/B) in the still picture mode.<br>ON⟷OFF |

### Shuttle GUI

| Icon | Content |
|---|---|
| | **Pause** |
| | **Slow-motion play**<br>◀I: Backward<br>I▶: Forward |
| | **Play** |
| | **Search**<br>◀◀: Backward<br>▶▶: Forward |

There are five speeds for both backward and forward slow-motion and search.

# Cassette tapes

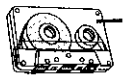
**Refer to illustrations B–D on page 21 of the illustrated booklet.**

**See page 29 for tape selection.**

**Preparation:** Press [⏻/I] to turn the unit on.

**B**

**1 Press [▲ OPEN] on deck 1 or deck 2 and insert the cassette with a tape facing down.**



forward side

Close the holder by hand.

**2 Press [DOLBY NR] to select Dolby NR on ("DDNR" appears on the tuner/amplifier) or off.**

**3 Press [REV MODE] to select the reverse mode.**

The indicator on the tuner/amplifier changes each time you press the button:

⇄: One side is played.

⇄↻: Both sides are played.

↻⇄↻: Both sides are played 8 times each.

**4 Press [◁] (reverse side) or [▷] (forward side).**

Play begins and the play indicator changes to green.

**5 Adjust the volume.**

### To stop the tape

Press [■].

### C To change the deck to be used

Press [DECK 1/2] to select the deck you want to play.

### To listen to 2 tapes consecutively

Insert a tape into each deck and select "↻⇄↻". Both tapes will be played 8 times each.

## D Finding a place on a tape

### To fast-forward and rewind

**Press [◀◀] or [▶▶] while the tape is stopped.**

### To find the beginning of a track (TPS: Tape program sensor)

**Press [◀◀] or [▶▶] during play.**

Play resumes from the beginning.

| Tape direction | rewind | fast-forward |
|---|---|---|
| ▷ | ◀◀ | ▶▶ |
| ◁ | ▶▶ | ◀◀ |

- Each deck's play direction is stored in the system's memory.
- You can fast-forward or rewind the tape while you are playing or recording a tape in another deck.
  Press [DECK 1/2] to switch to the deck not playing, and then press [◀◀] or [▶▶]. After the above operation, be sure to press [DECK 1/2] to reselect the deck playing.

**Note**

TPS may not operate correctly in the following situations:
If the interval between tracks is less than 4 seconds.
If there is noise between tracks.
If there are silent parts within tracks.

## Dolby noise reduction

Dolby NR reduces "hissing" when playing tapes. It increases the high frequency region when recording and then reduces it in playback. Use the same system during playback and recording. This unit has Dolby B NR which reduces noise to a third.

Prerecorded cassettes and equipment marked "DDNR" use Dolby B NR.

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"Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

# The radio: manual tuning

**Refer to illustrations A–C on page 22 of the illustrated booklet.**

Radio stations can be tuned manually by selecting the station's frequency or they can be preset into channels to make it easy to tune (➡ page 15).

**Preparation:** Press [⏻/I] to turn the unit on.

**A**

**1 Press [TUNER/BAND] to display FM or AM on the tuner/amplifier.**

Each time you press the button: FM⇄AM

**2 Press [TUNING MODE] to display "MANUAL" on the tuner/amplifier.**

Each time you press the button: MANUAL⇄PRESET

**3 Press [TUNING (∨ or ∧)] to tune in the desired broadcast.**

If you press and hold [TUNING (∨ or ∧)] for a moment, the frequency starts changing automatically. It stops when a station is found.
It may also stop if there is outside interference. Press and hold [TUNING (∨ or ∧)] again to restart. You can also stop the frequency changing by pressing [TUNING (∨ or ∧)].
"TUNED" is displayed when a radio station is tuned.
"ST" is displayed when a stereo FM broadcast is being received.

**4 Adjust the volume.**

## B If noise is excessive in FM

### Press [FM AUTO/MONO] to display "MONO".

This mode improves sound quality if reception is weak for some reason but broadcasts are heard in monaural.
Press [FM AUTO/MONO] again to cancel the mode. "MONO" goes out.
MONO is also canceled if the frequency is changed.
Turn off "MONO" for normal listening. Stereo and monaural broadcasts are automatically played as they are received.
Stations can be preset in monaural. Carry out presetting manually (➡ page 15).

## C RDS broadcasting

**For the United Kingdom, Continental Europe and Russia**

This unit can display the text data transmitted by the radio data system (RDS) available in some areas.
If the station you are listening to is transmitting RDS signals, "RDS" will light up on the display.

### Displaying the text data

Press [PS–DISP MODE] to display a station name.
Press [DISP MODE–PTY] to display a program type.
Each time you press the button:
Frequency display⇄PS or PTY display

**Note**

RDS displays may not be available if reception is poor.
"M.O.R M"="Middle of the road music".

## AM allocation settings

**(For areas except for the United Kingdom, Continental Europe, Russia, Australia and N.Z.)**

Each country allocates broadcast bands according to their particular system.
By adjusting the AM allocation, you can enable the tuner to receive AM broadcasts allocated in 10 kHz steps. (9 kHz⇄10 kHz)

### Press and hold [TUNER/BAND].

After a few seconds the display will change to a flashing display of the current minimum AM frequency. If you continue to hold [TUNER/BAND] down, the minimum frequency will change. Release the button at this time.
To return to the original frequency indication, repeat above.

**Note**

After changing the allocation setting, the frequencies you previously preset in the memory will be cleared.

## The radio: preset tuning

**Refer to illustrations D–F on page 22 of the illustrated booklet.**

There are two methods of presetting stations.
**Automatic presetting:** The stations the tuner can receive are preset.
**Manual presetting:** You can select the stations to preset and the order they are preset in.
There are 39 channels available for presetting.

### D Automatic presetting

Do the following once each for FM and AM.
**Preparation:** Tune to the frequency presetting is to begin at (➡ page 14).

**Hold down [SET].**

Release the button when "AUTO MEMORY" appears on the tuner/amplifier.
The tuner presets all the stations it can receive into the channels in ascending order. FM stations are preset into channels 1 to 39, and AM stations are preset into channels 21 to 39.
"SET OK" is shown when presetting is complete and the last station to be preset is played.
"ERROR" is displayed if the tuner doesn't receive any stations. Do presetting manually if this happens (see below).

**Note**
AM stations replace any FM channels that were preset in channels 21 to 39.

### E Manual presetting

Preset the stations one at a time.

① **Tune to the required station.**
② **Press [SET].**
③ **Press [TUNING (∨ or ∧)] to select a channel.**
④ **Press [SET].**

The station occupying a channel is erased if another station is preset in that channel.

### F Selecting channels

**Preparation:** Press [⏻] to turn the unit on.

**On the remote control**

**1 Press [TUNER/BAND].**

**2 Press the numbered buttons to select the channel.**
For channels 1 to 9 press the corresponding number.
For channels 10 or over press [≥10/-/--], then the two digits.
e.g. To select channel 21: [≥10/-/--]→[2]→[1]

**3 Adjust the volume.**

---

**On the main unit**
① Select "PRESET" with [TUNING MODE].
② Press [TUNING (∨ or ∧)] to select the channel.

## Boosting the super woofer

**Refer to illustration A on page 23 of the illustrated booklet.**

Boosting the super woofer adds power to the bass.

**Press [DIGITAL S.WOOFER].**
The indicator turns green.
The display on the tuner/amplifier changes each time you press the button:
MID (medium)→MAX (high)→cancel (off)

There is only one level when listening through headphones.

---

**To cancel**
Press [DIGITAL S.WOOFER] to turn the indicator off.

## Using the super sound equalizer

**Refer to illustration B on page 23 of the illustrated booklet.**

Turning on the super sound equalizer gives you a more powerful sound.

**Press [SUPER SOUND EQ].**
The indicator turns green.

---

**To cancel**
Press [SUPER SOUND EQ] so the indicator turns orange.

## Changing sound field and quality

**Refer to illustration C on page 23 of the illustrated booklet.**

**Turn [MULTI JOG] to select a setting.**
The display on the sound processor changes each time you turn the jog:
HEAVY: Adds punch to rock.
CLEAR: Clarifies higher sounds.
SOFT: For background music
HALL: Expands sound to make you feel like you were in a hall.
AI-EQ: Adjust sound with the acoustic image equalizer (➡ page 16).
M.EQ: Create your own effects (➡ page 16).
FLAT: Canceled (no effect is added).

---

**On the remote control**
Press [SHIFT]+[EQ].

**To cancel**
Turn [MULTI JOG] to select "FLAT".

**Note**
Turn off the effect if sound quality reduces when using HALL with a source.

Refer to illustrations D and E on page 23 of the illustrated booklet.

## D Using the acoustic image equalizer (AI EQ)

Achieve subtle sound quality settings with the soft, sharp, heavy, and light coordinates.

**1 Turn [MULTI JOG] to display "AI-EQ" on the sound processor.**

**2 Press [SUPER 3D AI EQ] to select the surround level.**

Each time you press the button:
AI EQ→SUPER 3D AI 1→SUPER 3D AI 2

SUPER 3D AI 1: Adds a surround effect to the AI EQ.
SUPER 3D AI 2: Adds a stronger surround effect to the AI EQ.

**3 Change the sound quality with [◄, ►, ▲, ▼].**

Adjust softness and sharpness with [◄, ►].
Adjust heaviness and lightness with [▲, ▼].
The original display is restored on the display panel in about 5 seconds.

### To cancel

Turn [MULTI JOG] to select "FLAT".

The changes you make are stored and automatically recalled the next time you select AI EQ.

**Note**

- Turn off the effect if sound quality reduces when using SUPER 3D AI EQ with a source.
- You cannot select "SUPER 3D AI 1" or "SUPER 3D AI 2" while:
  - Using a surround system (➡ right)
  - Karaoke mode is on (➡ page 22)
  - Listening to the radio
  - Playing a DVD (except for MIX 2CH mode, ➡ page 17)
  - Using headphones

## E Using the manual equalizer (M.EQ)

Create your own sound quality effects.

**1 Turn [MULTI JOG] to display "M.EQ" on the sound processor.**

**2 Change the sound quality with [◄, ►, ▲, ▼].**

① Select the sound range to be adjusted with [◄] or [►].
② Adjust the level with [▲] or [▼].

Repeat step 2 to set the desired sound quality.
The original display is restored on the display panel in about 5 seconds.

### To cancel

Turn [MULTI JOG] to select "FLAT".

**Note**

The changes you make are stored and automatically recalled the next time you select the manual equalizer.



## Enjoying surround sound

The following chart gives a summary of this unit's surround features. It also shows additional effects that can be used to enhance your enjoyment.

**Note**

- All the features are only effective if speakers are used.
- You may experience a reduction in sound quality when these surround systems and effects are used with some sources. If this occurs, turn the surround system or effect off.

| | Features |
|---|---|
| [illegible] | • Dolby Digital is a discrete 5.1 (6) channel surround system developed for cinema use. The sound signals in Dolby Digital format are compressed to 1/10 their original size, allowing an entire movie to be recorded on a single DVD.<br>• This unit automatically recognizes DVDs that have been recorded with Dolby Digital.<br>• Not all Dolby Digital sources are recorded with 5.1 (6) channels. Some sources marked Dolby Digital may be recorded in Dolby Surround, a 2 channel system. |
| [illegible] | • This unit has built-in Dolby Pro Logic circuitry so you can enjoy Dolby Surround.<br>• Dolby Pro Logic is a decoding system that was developed to get a better sense of presence from sources encoded with Dolby Surround. The feeling of position has been improved by the addition of a separate center speaker channel. |
| [illegible] MOVIE | • This mode adds surround effects to movie software that hasn't been recorded with the above systems.<br>• In MOVIE mode you can adjust the volume of the surround speakers to get the best surround effect. |
| [illegible] MUSIC | This mode adds surround effects to stereo sources. |

## Additional Effects

Refer to illustration A on page 24 of the illustrated booklet.
[- - - -] in the illustrations represent virtual speakers.

### Ⓐ Center focus (➡ page 18)

- This mode makes it seem like the sound from the center speaker is coming from within the television.
- The center speaker should be placed above the television.

### Ⓑ Virtual rear surround (➡ page 18)

- This mode is useful if you have to place your surround speakers near the front speakers due to the layout of your room.
- This mode makes it seem like the sound from the surround speakers is coming from behind you.

**When you turn on one of the surround systems, the indicators for the additional effects you can use also light.**

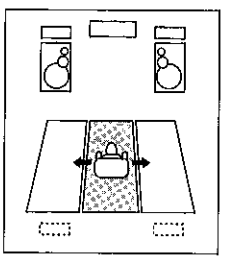
| Software | Additional effects<br>See below for details. |
|---|---|
| DVDs encoded with Dolby Digital can be identified with this mark.<br>DOLBY DIGITAL<br>See the manual for the equipment you have connected for details on the types of software you can use. | Ⓐ Center focus<br>Ⓑ Virtual rear surround<br>Ⓒ Multi rear surround<br>Ⓓ Seat position |
| Software encoded with Dolby Surround can be identified with this mark.<br>DOLBY SURROUND<br>•DVD<br>•Video CD<br>•CD<br>•Laser Disc<br>•Video tape | Ⓐ Center focus<br>Ⓑ Virtual rear surround<br>Ⓒ Multi rear surround<br>Ⓓ Seat position |
| Any stereo sound source except for the radio.<br>•DVD<br>•Video CD<br>•CD<br>•Cassette tape<br>•Laser Disc<br>•Video tape | Ⓑ Virtual rear surround<br>Ⓒ Multi rear surround<br>Ⓓ Seat position |

### Ⓒ Multi rear surround (➡ page 18)

This mode makes it seem like there are multiple surround speakers in your room, increasing the cinema-like atmosphere.

### Ⓓ Seat position (➡ page 18)

- This mode helps maintain the sound position even if the listening position itself is changed.
- When used with virtual rear surround, seat position is changed in 3 steps.



**See page 18 for speaker level adjustment.**

## DOLBY DIGITAL

**Refer to illustrations B and C on page 24 of the illustrated booklet.**

### Play a DVD encoded with Dolby Digital.

B "DDDIGITAL" appears on the tuner/amplifier.

### C To down-mix Dolby Digital (5.1ch) signals to 2 channels

Press [SHIFT]+[MIX 2CH].

**To cancel**

Press [SHIFT]+[MIX 2CH] again.

## DOLBY PRO LOGIC

**Refer to illustration D on page 24 of the illustrated booklet.**

### 1 Press [DD PRO LOGIC, OFF/ON].

The indicator turns green.

### 2 Playback a Dolby Surround source.

**To cancel**

Press [DD PRO LOGIC, OFF/ON] so the indicator turns off.

**Note**

Turn Dolby Pro Logic off when playing a DVD recorded with 5.1-channel Dolby Digital. The surround effects will not be reproduced correctly if this is left on.

## SUPER SURROUND

**Refer to illustration E on page 24 of the illustrated booklet.**

### Press [SUPER SURROUND] and select "MOVIE" or "MUSIC".

The indicator turns green.

The display on the tuner/amplifier changes each time you press the button:

MUSIC→MOVIE→STEREO SOUND* (off)

*Original display when playing DVDs

**Note**

Turn SUPER SURROUND off when playing a DVD recorded with 5.1-channel Dolby Digital. The surround effects will not be reproduced correctly if this is left on.

**To cancel**

Press [SUPER SURROUND] to select "STEREO SOUND". The indicator goes out.

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## Speaker level adjustments

**Refer to illustration A on page 25 of the illustrated booklet.**

Remote control only

### DOLBY DIGITAL, DOLBY PRO LOGIC

If the level of the speakers appears to be different while listening to a source, adjust the levels of the speakers to the same apparent level.

**Preparation:** Set the volume level of the front speakers normally used for enjoying the source.

① Press [SHIFT]+[TEST] to output a test signal.
A test signal is output from each speaker in order.
To stop the test signal, press [SHIFT]+[TEST] again.

| | |
|---|---|
| Lch: | Front left speaker |
| Cch: | Center speaker |
| Rch: | Front right speaker |
| RSch: | Right surround speaker |
| LSch: | Left surround speaker |

(No signal is output for the subwoofer.)

- The surround channel for Dolby Pro Logic is monaural so the indicator appears as "Sch" instead.

② While the speaker to be adjusted is outputting a signal
Press [▲] (to increase the level) or [▼] (to decrease the level).
The level of the speaker changes.

Repeat step ② as desired.

### To adjust the levels during play

❶ Press [CH SELECT] to select the speaker.
Each time you press the button:

In Dolby Digital
Lch→Cch→Rch→RSch→LSch→SWch
↑ ←

SWch: Subwoofer (Adjust only when connected)

In Dolby Pro Logic
Lch→Cch→Rch→Sch
↑ ←

❷ Press [▲] or [▼] to adjust the level.

### SUPER SURROUND

While playing a source
1. Press [CH SELECT].
2. Press [▲] (to increase level) or [▼] (to decrease level).



**Refer to illustrations B–E on page 25 of the illustrated booklet.**

These effects can be used with the surround systems described on pages 16 and 17.
These effects are available when the corresponding indicators are alight.

## B SEAT POSITION

**1 Press [SEAT POSITION].**
The indicator flashes green.

**2 While the indicator is flashing (within 10 seconds) Adjust the seat position with [◄, ►, ▲, ▼].**

The indicator flashes for 10 seconds then lights green.

### To cancel

1. Press [SEAT POSITION] so the indicator flashes.
2. Press [SEAT POSITION] again while the indicator is flashing so it turns orange.

## C CENTER FOCUS

**Press [CENTER FOCUS].**
The indicator turns green.
DIALOGUE ENHANCER is canceled when you turn this on (➡ page 10).

### To cancel

Press [CENTER FOCUS] so the indicator turns orange.

## D VIRTUAL REAR SURROUND

**Press [VIRTUAL REAR SURROUND].**
The indicator turns green.

### To cancel

Press [VIRTUAL REAR SURROUND] so the indicator turns orange.

## E MULTI REAR SURROUND

**Press [MULTI REAR SURROUND].**
The indicator turns green.

### To cancel

Press [MULTI REAR SURROUND] so the indicator turns orange.

### On the remote control

① Press [SHIFT]+[AV EFFECT].
② Press [◄] or [►] so the surround effect indicators flash in order.
③ Press [▲] (ON).
④ (If you select SEAT POSITION)
Adjust the seat position with [◄, ►, ▲, ▼].

To turn it off, after steps ① and ② press [▼] so the indicator turns orange.

**Note**

- The seat position is remembered by the unit and is reactivated when you turn seat position on again.

# Before recording (Deck 2 only)

**See page 29 for tape selection.**

Volume, sound quality and surround effects have no effect on recording. Sound quality and surround effects are automatically set to flat when recording.

**Refer to illustrations A–C on page 26 of the illustrated booklet.**

## A To display the tape counter while recording

**Press [COUNTER, DISPLAY].**

The counter is displayed for about 5 seconds.

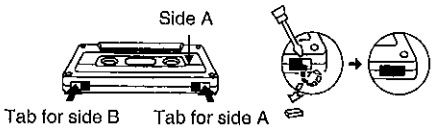
- Press [COUNTER, RESET] to reset the counter.
- To display or reset the tape counter for deck 1, first press [DECK 1/2].

## B Erasing recordings

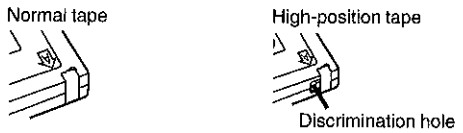
① Press [INPUT SELECTOR] to select "TAPE".
② Insert the recorded tape into deck 2.
③ Press [DOLBY NR] so the "DD NR" indicator goes out.
④ Select the reverse mode.
⑤ Press [● REC PAUSE].
⑥ Press [◁] or [▷].

### Erasure prevention

The illustration shows how to remove the tabs to prevent recording.




To record on the tape again, cover as shown, being careful not to cover the high position discrimination hole.



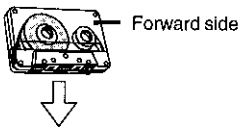

Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

## C Preparatory steps

**Do these steps before each recording.**

Wind up the leader tape so recording can begin immediately.

**1 Press [▲ OPEN] on deck 2 and insert the cassette with tape facing down.**




**2 Press [DOLBY NR] to select Dolby NR on ("DDNR" appears on the tuner/amplifier) or off.**

(➡ "Dolby noise reduction", page 14)

**3 Press [REV MODE] to select the reverse mode.**

Each time you press the button:

⇄: One side only records.
⇄ and ⊂⇄: Both sides record (forward→reverse).

"⊂⇄" automatically changes to "⇄" when [● REC PAUSE], [CD EDIT] or [TAPE EDIT] is pressed.

# Recording discs

**Refer to illustrations D–E on page 26 of the illustrated booklet.**

**Preparation:**

- Do the preparatory steps (➡ left).
- Insert the disc(s) you want to record (➡ page 8).
- Press [DISC, 1–5] to select the disc where you want to start recording, then press [■] to stop the disc.

## D Normal recording

DVD VCD CD

**1 Press [◁] (reverse side) or [▷] (forward side) then [■] to set the tape direction.**

**2 Press [● REC PAUSE].**

The deck goes into the recording standby mode and the indicator "◁" or "▷" starts flashing.

**3 Press [▷] on the DVD/Video CD/CD changer.**

Recording starts automatically.

4 seconds after the disc(s) finishes, the deck goes into the recording standby mode.

### To stop recording

EITHER
Press [■] on the changer.
The deck goes into the recording standby mode 4 seconds later.
OR
Press [■] on the deck.
Recording stops immediately but the disc continues to play.

### To record programmed tracks

Program tracks before step 1 (➡ page 11).

## E One touch disc editing

VCD CD

This function makes it easier for you to record from discs.

- When recording, if a track is cut off in the middle at the end of the front side, it is recorded from the beginning on the reverse side. (Ensure the "⇄" reverse mode is selected. )
- At the end of the reverse side recording stops and the current track will be interrupted.

Ensure a Video CD or CD is in the play position tray.
Press [◁] or [▷] then [■] to set the tape direction, and press [INPUT SELECTOR] to select "DVD" as the source, then

**Press [CD EDIT].**

Recording starts. In the meantime, "CD EDIT" will scroll across the display.

The deck stops when recording finishes.

### To stop editing

Press [■] on the changer.
The cassette deck also stops. "EDIT OUT" scrolls across the display.

### To edit programmed tracks

Program the tracks (➡ page 11) and press [CD EDIT].

### For your reference:

- ALL-DISC play can be combined (➡ page 12).
- PBC on Video CDs is automatically canceled.
- "ERROR" is displayed if the disc in the playing position is a DVD or the resume function (➡ page 8) is activated.

## Recording the radio

**Refer to illustration A on page 27 of the illustrated booklet.**

**Preparation:** Do the preparatory steps (➡ page 19).

**1 Tune to the required station.**
(➡ page 14, 15)

**2 Press [● REC PAUSE].**
The deck goes into the recording standby mode and the play indicator "◁" or "▷" starts flashing.

**3 Press [◁] (reverse side) or [▷] (forward side) to start recording.**

---

**To stop recording**
Press [■].

**To temporarily stop recording**
Press [● REC PAUSE].
The deck goes into recording standby mode.
To resume recording press [◁] or [▷] with the flashing indicator.

## Tape-to-tape recording

**Refer to illustration B on page 27 of the illustrated booklet.**

**Preparation:**
- Do preparatory steps 1 and 3 (➡ page 19).
- Insert the tape to be recorded in deck 1.

**1 Set the tape direction on both decks.**
① Press [DECK 1/2] to select "DECK 2".
② First press [◁] or [▷], and then [■].

Repeat steps ① and ② for deck 1.

**2 Press [TAPE EDIT] to start recording.**
The indicator "◁" or "▷" shows deck 2 direction.
If either deck 1 or deck 2 stops, the other deck also stops.

---

**To stop recording**
Press [■].
Both decks stop.

**To enjoy another source while recording**
Start playing the other source.
You can change the volume level and tone quality without affecting the recording.

**Note**
The recording level and the noise reduction effect of the original (playback) tape will be recorded on the new tape.

# Using the timers

## The play timer

**Refer to illustration C on page 27 of the illustrated booklet.**

This timer starts play of the selected source at the selected time.
The displays in the illustrations show settings for preset radio channel 1 to play between 6:30 and 7:40 at −48 dB.

**Preparation:** Turn the unit on, set the time (➡ page 7), preset radio stations if you want the timer to start playing the radio (➡ page 15).

**1 ① Press [CLOCK/TIMER] to display "◴PLAY" on the tuner/amplifier.**
Each time you press the button:
CLOCK →◴PLAY→◴REC→Original display

**② Press [SET] within 3 seconds.**

**2 Follow these steps to set items ⓐ to ⓓ.**
**① Press [TUNING (∨ or ∧)] to select the condition required and**
**② Press [SET].**

ⓐ **Start time**
ⓑ **Finish time**
ⓒ **Source**
TUNER←→DVD←→TAPE
Insert a disc or tape if you select these sources.

If you select TUNER
**Select a preset channel.**
ⓓ **Volume**

The play timer is now on standby. The display shows each condition again then restores the original display.

**3 Press [⏻/I] to turn the unit off.**
◴PLAY/◴REC indicator remains illuminated to show the play (or record) timer is on.

The timer starts at the set time with the volume increasing gradually to the set level.

---

**To cancel the timer**
Press [◴PLAY/◴REC] so "◴PLAY" goes out.
Each time you press the button:
◴PLAY→◴REC→◴PLAY ◴REC→Light off
The play timer will be canceled, but the settings stay in the memory.

**For your reference:**
When you insert cassettes in decks 1 and 2, deck 1 has priority.

## The record timer

**Refer to Illustration A on page 28 of the illustrated booklet.**

This timer records the radio at the set time.
The displays in the illustrations show settings for recording preset channel 1 from 18:30 to 19:30.

**Preparation:** Turn the unit on, set the time (➡ page 7), preset radio stations (➡ page 15).

**1 ① Press [CLOCK/TIMER] to display "◴REC" on the tuner/amplifier.**

Each time you press the button:
CLOCK→◴PLAY→◴REC→Original display

**② Press [SET] within 3 seconds.**

**2 Follow these steps to set items ⓐ, ⓑ and ⓒ.**

**① Press [TUNING (∨ or ∧)] to select the condition required and**

**② Press [SET].**

**ⓐ Start time**
**ⓑ Finish time**
**ⓒ Preset channel**

The record timer is now on standby. The display shows each condition again then restores the original display.

**3 Prepare for recording.**

① Insert a tape into deck 2.
② Select the Dolby NR mode.
③ Select the reverse mode.
④ Select the tape direction.

**4 Press [⏻/I] to turn the unit off.**

◴PLAY/◴REC indicator remains illuminated to show the record (or play) timer is on.

Recording starts 30 seconds before the set time with the volume muted during the set time.

### To cancel the timer

Press [◴PLAY/◴REC] so "◴REC" goes out.
Each time you press the button:
◴PLAY→◴REC→◴PLAY ◴REC→Light off

The record timer will be canceled, but the settings stay in the memory.

## The play and record timers

**Refer to Illustration B on page 28 of the illustrated booklet.**

### Turning the timers on and off

The timers come on at the set times if ◴PLAY/◴REC indicator is on. They can be turned on and off by pressing [◴PLAY/◴REC].

### Checking the timers

Press [CLOCK/TIMER] to select "◴PLAY" (or "◴REC").
The timer conditions are shown in the following order:
**Play timer:**
Start time→Finish time→Source→Volume
**Record timer:**
Start time→Finish time→Selected radio station

The timers can be checked even if the unit is off.

### Playing the unit after the timers are set

The unit can be used after the timers are set. Make sure the unit is off before the set start time.

**Note**

- If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
- If the unit is on, the timer will not function. The system must be in the standby mode.
- This system retains the ON/OFF time settings until you make a new setting. If you make a new ON time setting, you must make a new OFF time setting.
- Do not turn DEMO on after setting a timer. The timers will not work while DEMO is on.

## The sleep timer

**Refer to Illustration C on page 28 of the illustrated booklet.**

**Remote control only**

This timer turns the unit off after a set time.

### While playing a source

**Press [SLEEP] to select the time (minutes).**

Each time you press the button:
SLEEP 30 ——→SLEEP 60 ——→SLEEP 90
↑——SLEEP OFF←——SLEEP 120←——┘

### To cancel the sleep timer

Press [SLEEP] to select "SLEEP OFF".
"SLEEP" goes out.

### To confirm the remaining time

(While the timer is functioning)
Press [SLEEP].
The remaining time is shown for about 5 seconds.

### To change the setting

Press [SLEEP] to display the remaining time, then press again to select the required time.

## Using the timers together

Any of the timers can be used together, but ensure the unit is off before the start time for the record and play timers.

## Changing the sound range display

**Refer to illustration A on page 29 of the illustrated booklet.**

The sound processor shows the level of each sound range with the three types of display described below.

### Press [DISPLAY MODE].

The spectrum display will change as follows.

[a] **Normal display**
This display indicates the strength of the sound in each tonal range.

[b] **Peak-hold display**
The peak sound value of each sound range is held on the display for about one second after it occurs.

[c] **Aurora display**
The peak sound value of each sound range is displayed in inverted form.

## Muting the volume

**Refer to illustration B on page 29 of the illustrated booklet.**

Remote control only

### Press [MUTING].

Volume is reduced to minimum.

---

**To cancel**

Press [MUTING] again.
"MUTING" goes out and the volume is restored.
To cancel from the tuner/amplifier, turn [VOLUME] to minimum (–– dB), then raise it to the required level.
Muting is also canceled when the unit is turned off.

## Using headphones (not included)

**Refer to illustration C on page 29 of the illustrated booklet.**

### Reduce the volume before connection.

Avoid listening for prolonged periods of time to prevent hearing damage.
Plug type: 3.5 mm stereo

## Enjoying karaoke
**(For areas except the United Kingdom, Continental Europe and Russia)**

**Refer to illustrations D–G on page 29 of the illustrated booklet.**

**Preparation:**

- Press [⏻/I] to turn the unit on.
- Turn on the television and switch the video input mode of the television to suit the type of connection you have made (e.g., VIDEO 1).
- Lower volume with [MIC VOL], then connect the microphone(s) to the microphone jack(s). (Plug type 6.3 mm monaural)

**1 Start the source.**

**2 Select the Karaoke mode.**
See below (E, F or G) for operation details.

**3 Adjust the main volume and microphone volume (D).**

### E Karaoke DVD

Icons are displayed on the television to assist operation.

Remote control only

① **Press [AUDIO].**
② **Press the cursor button [◄] or [►] to select the vocal select mode.**
③ **Press [▲] or [▼] to select the appropriate mode.**

(Refer to the discs jacket for details.)
The display on television changes each time you press the button:

- **Solo**
  OFF: Vocal off
  ON: Vocal on
- **Duet**
  OFF: Vocal off
  V1+V2: Vocal 1+2 on
  V1: Vocal 1 on
  V2: Vocal 2 on

### Other sources (except for radio)

The changes in Karaoke mode are shown on the tuner/amplifier.

**F Video CD/CD/cassette tape (multiplex)**
**Press [KARAOKE] to turn the vocals off.**

MONO L: Vocal off (Lch only)
↓
MONO R: Vocal on (Rch only)
↓
(off): Karaoke mode canceled.

**G DVD/Video CD/CD/cassette tape/video tape (non-Karaoke)**
**Press [V.MUTE] to turn the vocals off.**

V.MUTE: Vocal off
(off): Karaoke mode canceled.

---

**Note**

- The Karaoke modes cannot be used with the radio, SUPER 3D AI EQ or surround effects.
- If a strange noise (squealing or howling) is emitted during use, move the microphone away from the speakers, or turn down the microphone volume.
  When you are not using the microphone, disconnect it from the MIC jack, and turn down the microphone volume level to MIN.

**When using the VOICE MUTE function**

Voice mute may not function sufficiently or noise may interfere when using the following software.

- Monaural software
- Software with few musical instruments, including classical music and poetry recitations
- Software with duets or strong choruses

**To record your performance**

Start recording in deck 2 and then start singing.

Refer to Illustrations A–E on page 30 of the illustrated booklet.

## A Using the echo effect

**Press [ECHO].**

The display on the tuner/amplifier changes each time you press the button:

ECHO 1→ECHO 2→ECHO 3
↑——ECHO OFF←——┘

## B Changing the key (up to 6 steps)

**1 Press [KEY CON].**

"KEY 0" is displayed on the tuner/amplifier.

**2 Press [TUNING (♭ or ♯)] to change the key.**

♭: Lower the key by a halftone (−1, −2, −3)
♯: Raise the key by a halftone (+1, +2, +3)

### To restore the original key

Press [KEY CON] to display "KEY OFF" on the tuner/amplifier.

## C Giving the effect of singing at a Karaoke bar

**Disconnect headphones.**

**Press [LOUNGE].**

The display on the tuner/amplifier changes each time you press the button:

LOUNGE 1→LOUNGE 2→LOUNGE 3
↑——LOUNGE OFF←——┘

### To cancel the effect

Press [LOUNGE] to display "LOUNGE OFF" on the tuner/amplifier.

## D Giving the effect of singing in a chorus

**Press [CHORUS].**

The display on the tuner/amplifier changes each time you press the button:

CHORUS 1→CHORUS 2
↑—CHORUS OFF←┘

### To cancel the effect

Press [CHORUS] to display "CHORUS OFF" on the tuner/amplifier.

## E Selecting the Karaoke effect with the remote control

① Press [SHIFT]+[KARAOKE EFFECT].
② Press [◀] or [▶] to select the desired effect.
ECHO↔KEY↔LOUNGE↔CHORUS
↑————————————↑
③ Press [▲] or [▼] to select the desired level.

# External unit connections

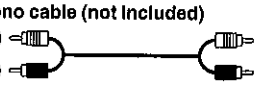
Refer to Illustrations F–I on page 30 of the illustrated booklet.

- Turn off all units before making connections.
- Refer to the manuals of the other units for details. (Cords and equipment not included.)

**S-video cord (not included)**

**Video cord**
**(1 included for the United Kingdom, Continental Europe and Russia**
**2 included for others)**

**Stereo phono cable (not included)**




### F Television with S-VIDEO terminal

The S-VIDEO output terminal on DVD/Video CD/CD changer achieves a more vivid picture than the video output terminal by separating the colour and luminance signals before transmitting them to the television. (Actual results depend on the television.)

### G Laser Disc player (without 5.1ch output), etc.

Connect to the VDP (AUX) terminal on the sound processor.
This unit has Dolby Pro Logic circuitry. The sound will be reproduced with the same powerful stereophonic effects found in movie theaters.

### H Video cassette recorder

Connect to the VCR (EXT) terminal on the sound processor.
You can play the sound from a video cassette recorder through this unit's speakers or record sound from this unit onto a video cassette.

### I Televison

**(Except for the United Kingdom, Continental Europe and Russia)**
Using video cords, connect the following equipment to the terminals on the sound processor.
Connect a laser disc player or other audiovisual equipment to VDP IN.
Connect a television to MONITOR OUT.
Connect a video cassette recorder to VIDEO IN and VIDEO OUT.
These connections allow you to control the video and audio from this equipment with [INPUT SELECTOR].

### Subwoofer

The included front speakers have subwoofers, but you can enhance the sound by connecting an optional subwoofer to SUBWOOFER OUT terminal on the back of the sound processor.

## Optional antenna connections

**Refer to illustrations A–D on page 31 of the illustrated booklet.**

If radio reception is poor, connect outdoor antennas to the antenna terminals on the tuner/amplifier (A).

### FM outdoor antenna

**B For Continental Europe and Russia**

Connect the 75 Ω coaxial cable (ⓐ) from the outdoor antenna to the FM antenna terminal.

**For UK only**

Attach the included antenna plug adaptor (ⓑ) to the end of the cable before connection.

**C For others**

After preparing the 75 Ω coaxial cable as described below, connect the shield braid (ⓒ) to GND and the core wire (ⓐ) to 75 Ω.

**Preparing the 75 Ω coaxial cable**

① Remove a piece of the outer vinyl.
② Twist the shield braid to expose the core wire.

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

### D AM outdoor antenna

Use a piece of vinyl covered wire as an AM outdoor antenna. Connect it to AM ANT EXT and run it horizontally across a window or other convenient location.

Leave the loop antenna connected.

**Note**

Disconnect the antenna when the unit is not in use.

Do not use the antenna during an electrical storm.

## Using other equipment

**Refer to illustration E on page 31 of the illustrated booklet.**

### Listening to an external source

**1 Press [INPUT SELECTOR] to select the external source.**

Each time you press the button:

TUNER→DVD→TAPE→**VCR (EXT)→VDP (AUX)**

**On the remote control**

Press [VCR (EXT)/VDP (AUX)].

**2 Operate the unit.**

See the unit's manual for details on operation and connection.

### Recording an external source

**1 Press [INPUT SELECTOR] to select the external source.**

**2 Select Dolby NR and reverse mode.**

(➡ page 19)

**3 Press [● REC PAUSE].**

**4 Press [◁] or [▷] to start recording.**

**5 Start the source to be recorded.**

See the unit's manual for details on operation and connection.

**To stop recording**

Press [■] on the deck.

**To temporarily stop recording**

Press [● REC PAUSE].

The deck goes into the recording standby mode.

To resume recording press [◁] or [▷] with the flashing indicator.

### Recording onto an external unit

① Press [INPUT SELECTOR] to select the source to be recorded.
② Start recording on the external unit and start playing the source to be recorded.

## Initial settings

Change the initial settings to suit your preferences and to suit the unit to the environment in which it is being used.

These settings are retained in memory until they are changed, even if the unit is turned off.

### Changing the initial settings

**Refer to illustration F on page 31 of the illustrated booklet.**

**Remote control only**

Once the initial settings have been completed, the system can always be operated under the same settings.

**Preparation:** Press [DVD] to select "DVD" as the source.

**1 While stopped or playing**

**Press [SHIFT]+[SETUP].**

The screen shows the disc setting menu first.

**2 Press [◀], [▶] to select the menu's tab.**

The menu screen changes to display the menu.

› Disc menu (Disc)
↕
Video menu (Video)
↕
Audio menu (Audio)
↕
Display menu (Display)

**3 Press [▲], [▼] to select the menu you want and press [ENTER].**

**4 Press [▲], [▼] to select the item and press [ENTER].**

The screen now shows the menu again.

**To return to the previous screen**

Press [RETURN].

**To exit the initial settings menu**

Press [SHIFT]+[SETUP].

**Note**

The initial settings menu will not be displayed if one of the play modes (program, random and ALL-DISC) is activated.

## Summary of initial settings

This chart shows the initial settings for this unit. See page 24 for details on operation. Shaded items are the factory settings.

- The menu and on-screen message language has been factory preset to English. You can change the language by going to "Menu Language" in the Display menu.

| Main menu | Menu | Options | Remarks |
|---|---|---|---|
| **Disc** DVD | **Audio**<br>Choose the preferred audio language. | English French German<br>Italian Spanish Original<br>Other ∗∗∗∗ | • Some discs are designed to start in a certain language despite any changes you make here.<br>**"Other ∗∗∗∗":** Input a code number with the numbered buttons (➡ page 26).<br>**"Original":** The original language of each disc will be selected.<br>**"Automatic":** If the language selected for "Audio" is not available, subtitles of that language will automatically appear if available on that disc. |
| | **Subtitle**<br>Choose the preferred subtitle language. | Automatic English French<br>German Italian Spanish<br>Other ∗∗∗∗ | |
| | **Menus**<br>Choose the preferred language for disc menus. | English French German<br>Italian Spanish<br>Other ∗∗∗∗ | |
| | **Ratings**<br>Set a ratings level to limit DVD play. | **Setting ratings**<br>**(When level 8 is selected)**<br>8 No Limit 1 to 7 0 Lock All | • The password screen is shown if you choose levels 0 to 7 (➡ page 26).<br>• Select "Level 0" to prevent play of discs that do not have ratings levels recorded on them.<br>**Level 8:** All DVDs can be played.<br>**Level 1 to 7:** Prohibits play of DVDs with corresponding ratings recorded on them.<br>**Level 0:** Prohibits play of all DVDs. |
| | | **Changing ratings**<br>**(When level 0–7 is selected)**<br>Unlock Player Change Level<br>Change Password<br>Temporary Unlock | The password screen is shown when you select "Ratings", if levels 0 to 7 have been selected (➡ Enter the same password you entered in "Setting ratings"). |
| **Video** DVD VCD | **TV Aspect**<br>Choose the setting to suit your television and preference (➡ page 7). | 4:3 Pan & Scan<br>4:3 Letterbox<br>16:9 | |
| | **Still Mode**<br>Specify the type of picture shown when paused. | Automatic<br>Field<br>Frame | **Field:** Less blurred field stills are shown. Select if jittering occurs when "Automatic" is selected.<br>**Frame:** Sharper frame stills are shown. Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected. |
| | **NTSC Disc Output**<br>Choose whether to output PAL 60 or NTSC signals during playback of NTSC discs (➡ page 4). | PAL 60<br>NTSC | **PAL 60:** When connected to a PAL television.<br>**NTSC:** When connected to a multi-television. |
| **Audio** | **Speaker Setting** DVD<br>(Dolby Digital only)<br>Set the delay time for your center and surround speakers (➡ page 26). | Center: 0/1.3/2.6/3.9/5.3 ms<br>Surround (L/R): 0/5.3/10.6/15.9 ms | When the center/surround speakers cannot be located in the ideal position. |
| | **D.Range compression** DVD<br>(Dolby Digital only)<br>Compress the dynamic range when listening at low volume and to improve sound quality. | Off On | Compressing the dynamic range makes dialog clearer when listening at low volume. It can also improve sound quality while playing multi-channel DVD audio recorded with a high level of volume. |
| | **Audio during Search** DVD VCD<br>Choose whether to have sound during search. | On Off | |
| **Display** | **Menu Language**<br>Choose the preferred language for these menus and the on-screen messages. | English Français Deutsch<br>Italiano Español | |
| | **On-Screen Messages**<br>Choose whether to show on-screen messages or not. | On Off | |

## Entering a password

The password screen is shown when you select levels 0 to 7.

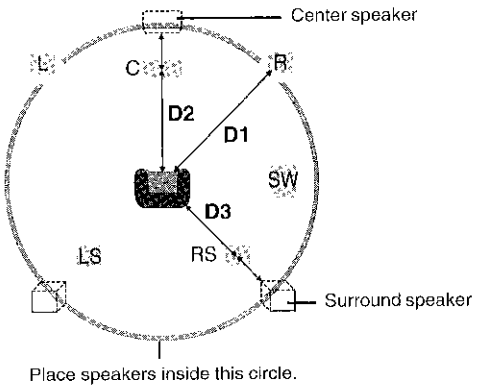
1. Input a 4-digit password with the numbered buttons and press [ENTER].
   - If you enter a wrong number, press [◀] to erase it before you press [ENTER].
   - The lock symbol appears closed to show the rating is locked.
   - **Do not forget your password.**
2. Press [ENTER] to confirm the 4 digits.

Now, when you insert a DVD that exceeds the ratings limit you set, a message appears on the television.
Follow the on-screen instructions.

## Calculating delay time

Change the delay time if you cannot locate the speakers as recommended.

**Recommended speaker location**




If D1≦D2/D3, then set the delay time to 0 ms.
If D1>D2/D3, then set the delay time as follows:

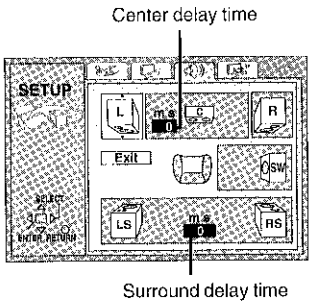
### Center speaker delay time

| Difference between D1 and D2 | Delay time |
|---|---|
| 50 cm | 1.3 ms |
| 100 cm | 2.6 ms |
| 150 cm | 3.9 ms |
| 200 cm | 5.3 ms |

### Surround speaker delay time

| Difference between D1 and D3 | Delay time |
|---|---|
| 200 cm | 5.3 ms |
| 400 cm | 10.6 ms |
| 600 cm | 15.9 ms |

① Select Center delay time or Surround delay time with [◀, ▶, ▲, ▼] and press [ENTER].
② Select the desired delay time with [▲] or [▼] and press [ENTER].




## Language code list

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Abkhazian: | 6566 | Chinese: | 9072 | Hausa: | 7265 | Lithuanian: | 7684 | Romanian: | 8279 | Telugu: | 8469 |
| Afar: | 6565 | Corsican: | 6779 | Hebrew: | 7387 | Macedonian: | 7775 | Russian: | 8285 | Thai: | 8472 |
| Afrikaans: | 6570 | Croatian: | 7282 | Hindi: | 7273 | Malagasy: | 7771 | Samoan: | 8377 | Tibetan: | 6679 |
| Albanian: | 8381 | Czech: | 6783 | Hungarian: | 7285 | Malay: | 7783 | Sanskrit: | 8365 | Tigrinya: | 8473 |
| Ameharic: | 6577 | Danish: | 6865 | Icelandic: | 7383 | Malayalam: | 7776 | Scots Gaelic: | 7168 | Tonga: | 8479 |
| Arabic: | 6582 | Dutch: | 7876 | Indonesian: | 7378 | Maltese: | 7784 | Serbian: | 8382 | Turkish: | 8482 |
| Armenian: | 7289 | English: | 6978 | Interlingua: | 7365 | Maori: | 7773 | Serbo-Croatian: | 8372 | Turkmen: | 8475 |
| Assamese: | 6583 | Esperanto: | 6979 | Irish: | 7165 | Marathi: | 7782 | Shona: | 8378 | Twi: | 8487 |
| Aymara: | 6588 | Estonian: | 6984 | Italian: | 7384 | Moldavian: | 7779 | Sindhi: | 8368 | Ukrainian: | 8575 |
| Azerbaijani: | 6590 | Faroese: | 7079 | Japanese: | 7465 | Mongolian: | 7778 | Singhalese: | 8373 | Urdu: | 8582 |
| Bashkir: | 6665 | Fiji: | 7074 | Javanese: | 7487 | Nauru: | 7865 | Slovak: | 8375 | Uzbek: | 8590 |
| Basque: | 6985 | Finnish: | 7073 | Kannada: | 7578 | Nepali: | 7869 | Slovenian: | 8376 | Vietnamese: | 8673 |
| Bengali; Bangla: | 6678 | French: | 7082 | Kashmiri: | 7583 | Norwegian: | 7879 | Somali: | 8379 | Volapük: | 8679 |
| Bhutani: | 6890 | Frisian: | 7089 | Kazakh: | 7575 | Oriya: | 7982 | Spanish: | 6983 | Welsh: | 6789 |
| Bihari: | 6672 | Galician: | 7176 | Kirghiz: | 7589 | Pashto, Pushto: | 8083 | Sundanese: | 8385 | Wolof: | 8779 |
| Breton: | 6682 | Georgian: | 7565 | Korean: | 7579 | Persian: | 7065 | Swahili: | 8387 | Xhosa: | 8872 |
| Bulgarian: | 6671 | German: | 6869 | Kurdish: | 7585 | Polish: | 8076 | Swedish: | 8386 | Yiddish: | 7473 |
| Burmese: | 7789 | Greek: | 6976 | Laotian: | 7679 | Portuguese: | 8084 | Tagalog: | 8476 | Yoruba: | 8979 |
| Byelorussian: | 6669 | Greenlandic: | 7576 | Latin: | 7665 | Punjabi: | 8065 | Tajik: | 8471 | Zulu: | 9085 |
| Cambodian: | 7577 | Guarani: | 7178 | Latvian, Lettish: | 7686 | Quechua: | 8185 | Tamil: | 8465 | | |
| Catalan: | 6765 | Gujarati: | 7185 | Lingala: | 7678 | Rhaeto-Romance: | 8277 | Tatar: | 8484 | | |

### Bitstream
This is the digital form of multiple channel audio data (e.g. 5.1 channel) before it is decoded into its various channels.

### Chapter
This is the smallest division on DVD and is roughly equivalent to a track.

### Decoder
A decoder restores the coded audio signals on DVDs to normal.
This is called decoding.

### Dolby Digital
This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be 5.1-channel audio. A large amount of audio information can be recorded on one disc using this method.

### Dolby Pro Logic
A surround system where a 4-channel audio track is recorded as 2 channels and then is restored to 4 channels for play. The surround channel is monaural and can reproduce up to 7 kHz.

### DTS (Digital Theater Systems)
This method of coding digital signals was developed by Digital Theater Systems. The signals are compressed at a low ratio to maintain sound quality.

### Dynamic range
Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

### Field
One frame is made up of two fields. A regular television shows these fields one after the other to create frames.

### Frame
Frames are the still pictures that go together to make a moving picture. There are about thirty frames shown each second.

### Frame still and field still
A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high. A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

### I/P/B
MPEG 2, the video compression standard adapted for use with DVD, codes frames using these three picture types.

I: Intra coded picture (I-picture)
This is the standard picture and is a complete picture in itself. This means it has the best picture quality and is the best to use when adjusting the picture.

P: Predictive coded picture (P-picture)
This picture is calculated based on past I and P-pictures.

B: Bidirectionally-predictive coded picture (B-picture)
This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information.

### PBC (Playback control)
This method of controlling disc play is included on version 2.0 Video CDs. You are able to interact with the disc through menus.

### PCM (Pulse code modulation), Linear PCM
PCM is the usual digital method used for Audio CDs. DVDs have a greater volume so they use linear PCM, which has a higher sampling rate.

### Sampling rate
This is the number of samples of sound taken per second during conversion to a digital signal. Sampling frequency is expressed in kilohertz (kHz). A high sampling frequency results in a sound close to the original when played back.

### Title
This is the largest division on DVD.

### Track
This is the smallest division on Video CD and Audio CD, and usually equates to a single song.

# Troubleshooting guide

Before requesting service, make the below checks. If you can't fix the system as described below, or if something not listed here occurs, refer to the enclosed directory to locate an Authorized Service Center convenient to you or contact your dealer.

**Reference pages are shown as black circled numbers ❼.**

## Common Problems

| | |
|---|---|
| **No sound.** | Turn the volume up.<br>The speaker leads may be shorted. Turn the unit off, check and correct the connections and turn the unit on. ❼ ❽ **of the illustrated booklet** |
| **Sounds unfixed, reversed or come from one speaker only.** | Check the speaker connections. ❼ ❽ **of the illustrated booklet** |
| **Humming heard during play.** | An AC mains lead or fluorescent light is near the cables. Keep other appliances and leads away from this unit's cables.<br>If possible in your area, turn the AC mains lead's plug or connector over to reverse the lead's polarity. |
| **"ERROR" is displayed.** | Incorrect operation performed. Read the instructions and try again. |
| **"U70" is displayed.** | Connect the flat cables firmly. If "U70" remains on the display, contact the dealer. |
| **"F61" is displayed.** | There is a problem with the amplifier. Consult your dealer. |
| **"–:–" appears on the display.** | You plugged the AC mains lead in for the first time or there was a power failure recently.<br>Set the time. ❼ |
| **The display starts up even after the unit is turned off.** | The demonstration feature (–DEMO) is on. Turn it off if it is not required. ❻ |
| **"DTS NO AUDIO" displayed.** | This unit is unable to decode DTS signals. |
| **"DTS CD" is displayed.** | This unit is unable to decode DTS signals. |
| **"DVD U11" displayed.** | The disc is dirty. Wipe it with a soft cloth. |
| **"DVD H□□" displayed.<br>(□□ will be numbers.)** | A problem has occurred. Turn the unit off and unplug the AC mains lead. Wait a moment and then plug the lead in and turn on the unit again. If the unit is still not working correctly, consult your dealer. |
| **Initial settings menu cannot be accessed.** | Select DVD as the source. ㉔<br>Cancel ALL-DISC, program and random play. ⓫ ⓬ |

## Listening to the radio

| | |
|---|---|
| **Noise is heard.**<br>**The stereo indicator flickers or doesn't light.**<br>**Sound is distorted.** | Use an outdoor antenna. ㉔ |
| **A beat sound is heard.** | Turn the TV off or separate it from the unit. |
| **A low hum is heard during AM broadcasts.** | Separate the antenna from other cables and leads. |
| **The correct AM frequency can't be tuned in.** | Change the frequency step. Hold [TUNER/BAND] down for 10 seconds to change the step to 9 kHz or 10 kHz. |

## Listening to tapes

| | |
|---|---|
| **Poor quality sound.** | Clean the heads. ㉙<br>Check the Dolby NR setting. ⓮ |
| **Recording is not possible.** | If the erasure prevention tabs have been removed, cover the holes with adhesive tape. ⓯ |

### Enjoying discs

| | |
|---|---|
| **Sound is distorted.** | When you are playing a DVD recorded with Dolby Digital, you can reduce distortion by compressing the dynamic range. See Audio→D.Range compression in the SETUP menus. ㉕ |
| **"NO DISC" appears on display** | There is no disc on the selected tray or the disc is set incorrectly. |
| **"NO PLAY" appears on display** | The disc does not correspond to the unit and cannot be played. |
| **Display is wrong or play won't start.** | The disc may be upside down.<br>Wipe the disc.<br>Replace the disc if it is scratched, warped, or nonstandard.<br>Condensation may have formed inside the changer due to a sudden change in temperature. Wait about an hour for it to clear and try again. |
| **"TAKE OUT/DISC" appears on display.** | There is a problem with the disc mechanism. (A power failure may have occurred.)<br>The tray will open automatically. Remove the disc from the tray, and close it after ensuring there is no disc in the tray. The unit will make disc changing noises for a few moments and then it should operate normally. |
| **Picture does not appear on TV screen when playing DVD.** | The region number of the disc doesn't match the region number of this unit. ❹<br>Connect the video cord. ⓬ **of the illustrated booklet**<br>Set the television to video input mode. |
| **Picture does not appear on TV screen when playing Video CD.** | Connect the video cord. ⓬ **of the illustrated booklet**<br>Set the television to video input mode. |
| **ALL DISC, program and random play cannot be used.** | Ensure a Video CD or CD is in the play position tray. |
| **Picture on TV screen disappears or stripes appear on screen.** | The location and orientation of the antenna are incorrect. If you are using an indoor antenna, change to an outdoor antenna.<br>The television antenna wire is too close to the system. Separate the antenna wire of the television from the system. |
| **You have forgotten your ratings password.<br>(Reset all the settings to Factory Preset)** | Reset the unit to its original factory settings by doing the following procedure.<br>When "DVD" is selected as a source, press [■] on the changer and [≥**10**/-/--] on the remote control at the same time for about 3 seconds until the message "Initialized" disappears from the television screen. |

### During one touch disc editing (➡ page 19)

| | |
|---|---|
| **"DECK NO TAPE" displayed.** | Load a cassette into deck 2. ⓲ |
| **"DECK CHANGE TAPE" displayed.** | If the erasure prevention tabs have been removed, cover the holes with adhesive tape. ⓲ |

### The remote control

| | |
|---|---|
| **The remote control doesn't work.** | Check the batteries are inserted correctly. ❼<br>Replace the batteries if they are worn. |

All components are required to service the system. If service is ever necessary, bring the entire system.

## Maintenance

### If the surfaces are dirty

**To clean this unit, wipe with a soft, dry cloth.**

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

### For a cleaner crisper sound

Clean the heads regularly to assure good quality playback and recording. Use a cleaning tape (not included).

## Cassette tape selection and care

The unit can correctly play or record on the following types. It identifies the type automatically.

| | |
|---|---|
| Normal position/TYPE I | ✔ |
| High position/TYPE II | ✔ |
| Metal position/TYPE IV | ✔ |

- Tapes exceeding 100 minutes are thin and can break or get caught in the mechanism.
- Tape slack can get caught up in the mechanism and should be taken up before the tape is played.
- Endless tapes can get caught up in the deck's moving parts if used incorrectly. Use tapes appropriate to this unit's auto-reverse mechanism.

## SOUND PROCESSOR

### ■ EQ/SFP section

MANUAL GEQ
5-Band EQ
Center frequency 70/300/1 k/3.15 k/10 k Hz
Level control ±2.0, 4.0, 6.0 dB
EQ/Space mode
4 modes HEAVY, CLEAR, SOFT, HALL
SUPER 3D AI EQ
3 modes AI EQ, SUPER 3D AI 1, SUPER 3D AI 2

### ■ Pre-amplifier section

Input sensitivity/impedance
VCR (EXT) 250 mV/15 kΩ
VDP (AUX) 250 mV/15 kΩ
Output level
VCR REC OUT 150 mV/1.5 kΩ
(For areas except the United Kingdom, Continental Europe, Russia, Australia and N.Z.)
VIDEO OUTPUT
MONITOR OUT 1 Vp-p/75Ω
VCR REC OUT 1 Vp-p/75Ω

### ■ DOLBY PRO LOGIC section

PRO LOGIC mode SURROUND
CENTER mode NORMAL
DELAY TIME 20 ms (Fixed)

### ■ AV SURROUND section

AV surround mode
SUPER SURROUND(MUSIC, MOVIE)

### ■ DSP CONTROL section

DSP control mode SUPER SOUND EQ
CENTER FOCUS
VIRTUAL REAR SURROUND
MULTI REAR SURROUND
SEAT POSITION

### ■ Spectrum analyzer section

Display mode NORMAL, PEAKHOLD, AURORA

### ■ General

Dimensions (W×H×D) 293×89×270 mm
Mass 1.5 kg

## TUNER AMPLIFIER

### ■ Amplifier section

Power output (L/R both channel driven)
Stereo Mode
DIN 1 kHz THD 1 %/6 Ω (High) 2×25 W
100 Hz THD 1 %/8 Ω (Low) 2×45 W
RMS 1 kHz THD 10 %/6 Ω (High) 2×35 W
100 Hz THD 10 %/8 Ω (Low) 2×65 W
PRO LOGIC mode
DIN FRONT
1 kHz THD 1 %/6 Ω (High) 2×25 W
100 Hz THD 1 %/8 Ω (Low) 2×45 W
SURROUND 1 kHz THD 1 %/8 Ω 2×30 W
CENTER 1 kHz THD 1 %/8 Ω 60 W
RMS FRONT
1 kHz THD10 %/6 Ω (High) 2×35 W
100 Hz THD 10 %/8 Ω (Low) 2×65 W
SURROUND 1 kHz THD 10 %/8 Ω 2×40 W
CENTER 1 kHz THD 10 %/8 Ω 80 W
PMPO 1 kHz/High 6 Ω, Low 8 Ω
CENT. 8 Ω, SURR. 8 Ω 3000 W
Total harmonic distortion
Rated power at 1 kHz 1 % (6 Ω)
Half power at 1 kHz 0.1 % (6 Ω)
Load impedance
FRONT (High) 6 Ω
FRONT (Low) 8 Ω
SURROUND 8 Ω
CENTER 8 Ω
DIGITAL S. WOOFER
Center frequency 60 Hz
LEVEL (VOL −20 dB) MID +3 dB
MAX +6 dB

### ■ FM tuner section

Frequency range 87.50–108.00 MHz
(0.05 MHz steps)
Sensitivity 1.8 µV (IHF usable)
S/N 26 dB 1.5 µV
S/N
MONO 70 dB (75 dB, IHF)
Antenna terminal(s) 75 Ω (unbalanced)

### ■ AM tuner section

Frequency range 522–1629 kHz (9 kHz steps)
520–1630 kHz (10 kHz steps)
Sensitivity (S/N 20 dB) 500 µV/m

### ■ Timer section

Clock Quartz-lock type
Function Play timer (1 time, daily),
Rec timer (1 time, daily),
Sleep (120 min, 30 min intervals)
Setting intervals (Play/Rec)
1 minute–23 hours 59 minutes
(1 min intervals)

### ■ General

Power supply
(For the United Kingdom, Australia and N.Z.)
AC 230–240 V 50 Hz
(For Continental Europe and Russia)
AC 230V 50 Hz
(For others) AC 110/127/220-230/240 V 50/60 Hz
Power consumption 230 W
Standby
(For the United Kingdom, Continental Europe, Russia, Australia and N.Z.) 0.5 W
(For others) 1.0 W
Dimensions (W×H×D) 293×118.5×343 mm
Mass 5.3 kg

## DVD/VIDEO CD/CD CHANGER

### ■ Discs played

DVD-Video disc
8/12 cm single-sided, single-layer
8/12 cm single-sided, double-layer
8/12 cm double-sided, double-layer
(One layer per side)
Compact disc (CD-DA, Video CD) 8/12 cm disc
CD-R/CD-RW 8/12 cm disc

### ■ Audio

No. of channels 5.1 channel (FL, FR, SL, SR, C, SW)

### ■ Video

Signal system PAL 625/50, PAL 525/60, NTSC
Output level
Composite video 1 Vp-p (75 Ω)
S-video Y 1 Vp-p (75 Ω)
S-video C 0.300 Vp-p (75 Ω) PAL
0.286 Vp-p (75 Ω) NTSC

### ■ Pickup

Beam source Semiconductor laser
Wavelength 658/790 nm
(For Norge)
Bølgelengde 658/790 nm
Laser-styrke Ingen farlig stråling sendes ut

### ■ General

Dimensions (W×H×D) 293×89×286 mm
Mass 2.5 kg

## CASSETTE DECK

Deck system Stereo cassette deck
Track system 4 track, 2 channel
Recording system AC bias
Bias frequency 100 kHz
Erasing system AC erase
Heads
Deck 1
(Playback head) Permalloy head
Deck 2
(Recording/Playback head) Permalloy head
(Erasing head) Double gap ferrite head
Motors
Deck 1, 2
Capstan drive DC servo motor
Tape speed 4.8 cm/s
Wow and flutter 0.16 % (WRMS)
Fast forward and rewind times
Approx. 110 seconds with C-60 cassette tape
Frequency response (Dolby NR off)
TYPE I (NORMAL) 20 Hz–16 kHz (DIN)
TYPE II (HIGH) 20 Hz–16 kHz (DIN)
TYPE IV (METAL) 20 Hz–16 kHz (DIN)
S/N (Signal level=max recording level, TYPE II type tape)
NR off 56 dB (A weighted)
Dolby B NR on 66 dB (A weighted)
Input sensitivity and impedance
REC (IN) 150 mV/23 kΩ
Output voltage and impedance
PLAY (OUT) 280 mV/360 Ω

### ■ General

Dimensions (W×H×D) 294×118.5×281 mm
Mass 2.1 kg

## FRONT SPEAKER

Type 3 way, 3 speakers, Bassreflex
Speaker(s)
Super woofer 17 cm cone type
Woofer 12 cm cone type
Tweeter 6 cm ring shaped dome type
Impedance High 6 Ω
Low 8 Ω
Input power (Music) High 60 W
Low 120 W
Output sound pressure level 87 dB/W (1.0 m)
Crossover frequency 120 Hz, 4 kHz
Frequency range 42 Hz–50 kHz (−16 dB)
46 Hz–36 kHz (−10 dB)

### ■ General

Dimensions (W×H×D) 240×412×259 mm
Mass 5.8 kg

## CENTER SPEAKER

Type 2 way, 3 speakers, Bassreflex
Speaker
Woofer(×2) 8 cm cone type
Tweeter 6 cm cone type
Impedance 8 Ω
Input power (Music) 160 W
Output sound pressure level 86 dB/W (1.0 m)
Crossover frequency 4 kHz
Frequency range 100 Hz–22 kHz (−16 dB)
115 Hz–20 kHz (−10 dB)

### ■ General

Dimensions (W×H×D) 190×99×166 mm
Mass 1.8 kg

## SURROUND SPEAKER

Type 1 way, 1 speaker, Closed
Speaker
Full range 8 cm cone type
Impedance 8 Ω
Input power (Music) 70 W
Output sound pressure level 84 dB/W (1.0 m)
Frequency range 130 Hz–20 kHz (−16 dB)
150 Hz–18 kHz (−10 dB)

### ■ General

Dimensions (W×H×D) 140×99×118 mm
Mass 0.9 kg

※"Low" and "High" stand for low frequency and high frequency.

**Note**

1. Specifications are subject to change without notice.
   Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

## WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPLIANCE TO RAIN, SPLASHING, DRIPPING OR MOISTURE.

## VAROITUS:

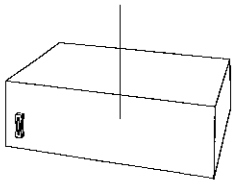
TULIPALO-, SÄHKÖISKUVAARAN TAI MUUN VAHINGON VÄHENTÄMISEKSI EI LAITETTA SAA ALTISTAA SATEELLE, ROISKEELLE, VESIPISAROILLE TAI KOSTEUDELLE.

## ADVARSEL:

FOR Å REDUSERE FAREN FOR BRANN, STRØMSJOKK ELLER SKADER PÅ PRODUKTET, MÅ DETTE APPARATET IKKE UTSETTES FOR REGN, VANNSPRUT, VANNDRÅPER ELLER FUKTIGHET.

CLASS 1
LASER PRODUCT

**LUOKAN 1 LASERLAITE**
**KLASS 1 LASER APPARAT**



DVD/Video CD/CD Changer
(Back of product)

| | |
|---|---|
| DANGER | - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. (FDA 21 CFR) |
| CAUTION | - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. (IEC60825-1) |
| ATTENTION | - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU. |
| ADVARSEL | - SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING. |
| VARO! | - AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN. |
| VARNING | - SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN. |
| ADVARSEL | - SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN. |
| VORSICHT | - SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN. |
| 注意 | - 打开时有可见及不可见激光辐射，避免激光束照射。 |
| 注意 | - ここを開くと可視及び不可視のレーザー光が出ます。ビームを直視たり、触れたりしないでください。 RQLS0233 |

(Inside of product)

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## CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

## CAUTION!

DO NOT INSTALL, OR PLACE THIS UNIT, IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

SUOMI

## VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

## VAROITUS!

ÄLÄ ASENNA TAI LAITA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.

NORSK

## ADVARSEL!

DETTE PRODUKTET ANVENDER EN LASER.
BETJENING AV KONTROLLER, JUSTERINGER ELLER ANDRE INNGREP ENN DE SOM ER BESKREVENT I DENNE BRUKSANVISNING, KAN FØRE TIL FARLIG BESTRÅLING.
DEKSLER MÅ IKKE ÅPNES, OG FORSØK ALDRI Å REPARERE APPARATET PÅ EGENHÅND. ALT SERVICE OG REPARASJONSARBEID MÅ UTFØRES AV KVALIFISERT PERSONELL.

## ADVARSEL!

APPARATET MÅ IKKE PLASSERES I EN BOKHYLLE, ET INNEBYGGET KABINETT ELLER ET ANNET LUKKET STED HVOR VENTILASJONSFORHOLDENE ER UTILSTREKKELIGE. SØRG FOR AT GARDINER ELLER LIGNENDE IKKE FORVERRER VENTILASJONSFORHOLDENE, SÅ RISIKO FOR ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET AV OVERHETING UNNGÅS.

**Matsushita Electric Industrial Co., Ltd.**
Osaka 542-8588, Japan

En

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